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THE AMERICAN FARMER.

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SUGAR-CANE IN LOUISIANA.

Methods of Cultivation on the Great Plantations in the Southern Part of the State.

BY DR. G. L. SPENCER,
Superintendent of the Magnolia Sugar Factory, Lawrence, La.

THE LEADING industries of Louisiana are agricultural. In the lowlands sugar-cane and rice are grown, and in north Louisiana cotton. The cane planter is kept busy almost the entire year. In the Fall he plants or stores seed cane in mats; then follows the harvest, which usually lasts until Christmas, and in many sections until late in January. After the harvest, and in fact even earlier, the teams are kept busy preparing the lands for Spring planting, which commences in February. In the meantime the stubble must be uncovered, or, to use the ordinary term, the people are put to work digging stubble. There is always plenty of work to do, since the Winter or dormant season is very short, and the greater part of this time is occupied in harvesting the crop.

CUTTING CANE, LAWRENCE, LA.

Sugar-cane is usually grown in rows from six to six and a half feet apart. Some planters adopt a spacing even greater than six and a half feet, and others less than six feet. The distance between rows is largely determined by the nature of the soil. In certain exceedingly stiff lands the rows must be far enough apart to admit a two-mule plow. The cane, when fully grown, presents an almost impenetrable jungle. A large area of land, varying with the stand of cane, is reserved for seed. This area often amounts to one-fourth of the total acreage in cane. The cane for seed purposes is cut in the Fall, before the harvest commences, and before it has been damaged by frost; that not used for immediate planting is windrowed and is covered with earth to a depth of three inches, and is thus protected from the severe frosts of Winter. After the harvest the trash in the fields is burned. Plowing is then commenced, and if the weather is favorable, the stubble is uncovered. In February the seed cane is taken from the mats for planting.

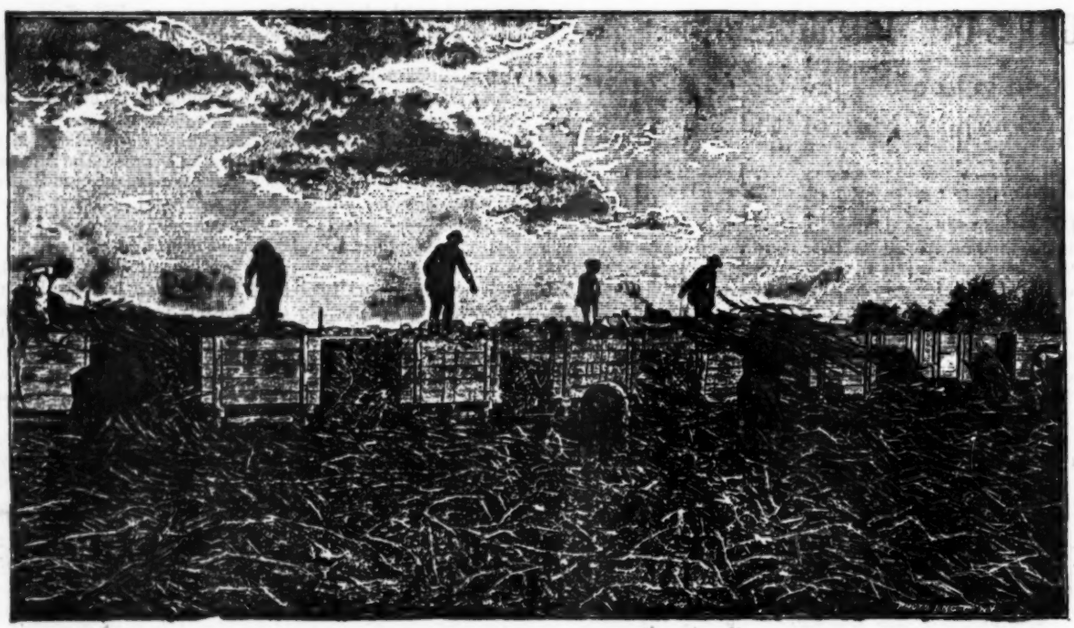
The land is prepared for planting as follows: During the latter part of August and early in September for Fall-plant cane the pea vines on the lands in green fallow are turned under with six-mule plows. When the lands are in good condition, about the 1st of October, the rows are laid off six or seven feet apart with two-mule plows. To widen and deepen these rows, a four-mule subsoil plow is run in the furrow, followed by a four-mule double moldboard plow, and this again followed by a fluke. This is essentially the plan of work followed by Mr. Dustmann, the manager of Magnolia Plantation. The lands of this plantation are very stiff, and necessitate a large stock of mules.

In planting, two or three canes are laid side by side in these rows, "breaking joints," as a bricklayer does in building a wall. The canes are then covered with earth to a depth of three inches by means of hoes, or under certain conditions a plow may be used. After the cane is covered, a heavy roller is passed over it to pack the earth close to the stalk and prevent dry rot in case of drouth. Spring planting is conducted in a similar manner. At each joint of the cane stalk there is a bud or eye from which the young plant springs. As the plants develop, the plowmen go through the fields with cultivators and gradually throw the soil up to the stalks; at the time the cane is ready to lay by, the ridges are very high. The cane is laid by when the plants are large enough to thoroughly shade the space between the rows. This period is usually about the middle of June to the 1st of July. The stubble cane grows rapidly early in the Spring, owing to its being thoroughly rooted and ready to take advantage of the early rains and warm days.

The harvest commences in the upper Parishes (Counties) early in October. The first cane harvested is usually green, and yields a small amount of sugar, with a large proportion of molasses. Below the city of New Orleans the harvest does not usually begin until the 1st of November, or in some instances later. There are sometimes severe frosts in the latter part of November, and in December ice occasionally forms. The ripe sugar-cane is not damaged, but, on the contrary, is rather benefited by a light frost; cold, however, severe enough for ice to form, is liable to entail serious losses unless the cane is promptly worked or protected. There are two methods of protecting cane when frost is anticipated; one consists in windrowing, and the other in cutting and covering the cane with trash. In windrowing, the cane is cut and heaped in the rows without any attempt being made to remove the trash, that is, the tops and leaves. The cane from two rows is thrown into one middle, the tops being turned one way and covering the stalks. This entails considerable extra labor before the cane can be sent to the sugar-house to be worked, since the trash must be removed. Many planters windrow their cane, especially above New Orleans, where the frosts are often severe, since it enables

them to get it under cover quickly. When the planter has a large force of people at his disposal he will usually windrow or cut and cover the cane in view of probable severe frost, closing his sugar-house, if necessary, to secure sufficient labor. In case he chooses this latter method, the people remove the tops and leaves from the cane, a process called trashing, throw the canes from several rows into one, that is into the hollow between the ridges, and cover them with the trash. Where cane is cut and covered, the only extra labor preliminary to the manufacture is the removal of the trash thrown on top of it.

The first crop after planting is termed "plant cane." A second crop springs up from this stubble, and is termed "first ratoons," or, perhaps more generally, "first stubble," and the third season there is another crop, called "second stubble." Additional stubble crops could be taken in subsequent seasons, but each crop would become smaller, more woody, and less profitable; hence, in Louisiana usually only plant cane and first and second stubble are harvested. Those planters who can spare the land usually follow second stubble with cow peas and corn, or cow peas only. The cow peas have many of the qualities of clover, and are usually grown both for feeding and fertilizing purposes. Cow peas form one of the most valuable green-fallow crops grown in the South. Many of the planters are compelled, through lack of tillable land, to plant cane after cane for many years, without letting the land lie in fallow. A certain large plantation which has about 1,000 acres of tillable land, devotes 745 to sugar-cane, about 200 to cow peas, 15 or 20 acres to sorghum, 20 acres to oats, and a few acres to pasturage. After the oats are harvested the land is sowed to cow peas. A large acreage is usually planted in corn and cow peas, but this season the land was being tile-drained, and was not ready for corn at the proper time. This plantation supplies a large proportion of the cane for an important sugar factory. The factory works the cane from about 600 acres of this plantation, in addition to other cane.



LOADING CANE ON TRAM-CARS, LAWRENCE, LA.

The average yield of clean cane per acre, year in and year out, will not vary much from 20 short tons. The leaves and tops, amounting to several tons additional, are burned after the harvest. This is a large amount of organic and mineral matter to take from a single acre of land, and is indicative of the marvelous fertility and productiveness of the lands bordering on the Mississippi and its tributaries. Authentic yields far surpassing these figures have been reported; entire plantations have yielded an average of 35 tons of clean cane per acre. This enormous drain upon the soil must be compensated for; hence the sugar planters are among the best customers the commercial fertilizer men have. Cottonseed meal is very largely employed as a nitrogenous fertilizer, and is applied mixed with superphosphate of lime. The dose per acre is often as large as 500 pounds of cottonseed meal and 300 pounds superphosphate. Fertilizers are distributed in April and May, a small amount, usually cottonseed meal, being sometimes applied with the seed cane in Spring planting.

The question of drainage is an exceedingly important one to the cane-planters. Ordinarily drainage is provided by ditches extending in parallel lines about 60 feet apart and emptying into main canals. The slope of the land is usually gradual, and there are no obstructions to this arrangement. The ditches are very expensive to keep in order. The banks must be cleared at intervals from the weeds, which grow very rapidly and very large. The cost of keeping ditches and bridges in order on a plantation having 1,000 acres under cultivation will not fall far short of $5,000 per annum. This is a heavy and unavoidable expense, unless a system of tile drainage be employed. The plantation of Gov. H. C. Warmoth, on the Mississippi, below New Orleans, has 1,000 acres of land thoroughly tile drained. The advantages secured have been numerous, and include a considerable increase in tillable land and a reduction of the running expenses of $4,000 or $5,000, formerly annually spent in the care of the ditches and bridges. The improved drainage has increased the yield of cane in adverse seasons. This plantation is under the management of Mr. H. Dustmann, and is in every respect a model, both of enterprise and good farming.

The ditches or tiles empty into large drainage canals, which conduct the water to the drain wheels. On many plantations, owing to the fact that the lands are lower than the average level of the river and of the swamp or bayou at the rear, it is necessary to remove the surplus water, which falls on the land or seeps through the levees, by means of pumping machinery. The usual method of removing this water is by the use of large wheels, 30 feet in diameter or larger, and having buckets five or six feet long. The wheel is driven by a powerful engine. The water is swept or lifted over a flood-gate, a large wheel delivering fully 100 tons per minute. Some idea of the enormous quantities of water which must be removed from a plantation of 1,000 acres may be gained from the statement that it sometimes requires 80 hours or more continuous work to accomplish this after a heavy storm.

In addition to the expense required to remove the water from the land, the planters and the State have a very heavy expense in building and maintaining levees to prevent the encroachments of the Mississippi River or bayous. A break in the levees entails a serious loss of time and money. The silt covers the land and fills the ditches. These latter must be reopened before the land can again be cultivated. The high water drowns out the cane. Fully three years are required before the plantation can again grow full crops.

The value of an average crop of cane is from $80 to $90 per acre, or, when reduced to a sugar basis, from $125 to $200, according to the excellence of the manufacture. Notwithstanding this large return per acre, the margin of profit is small. The field work on the large plantations is usually conducted upon the gang system, as it is termed. In this method of working, each class of work is conducted by a number of people under the supervision of an assistant overseer or foreman. A large number of men will be employed as a plow gang, another as a hoe gang, etc. Women frequently work in the fields, especially in the hoe-gangs or in cutting cane. The cane is usually hauled to the sugar-house in three-mule carts, though many of the more progressive planters employ portable tramways. Two mules will easily draw 15 tram-cars, holding a ton of cane each. The fields are very level, hence the mules find little difficulty in traveling at a sharp trot with such a load.

A thousand-acre plantation requires about 90 mules. These are fine, large animals, costing an average of $200 each. The cane-planters are largely dependent upon the Northern farmers for their supplies. Large quantities of Northern-grown pork, flour, corn, and hay are annually distributed from New Orleans.

A Very Interesting Plant.

Lactuca scariola, a foreign weed, a kind of lettuce, is, according to Meehan, becoming abundant around the Gettysburg battlefield. It is a very interesting plant from the fact that the leaves are vertical, standing on edge instead of being horizontal. Dr. Englemann once supposed that they were polar, as well as vertical; that is to say, the edges of the leaves being directed north and south, similar to those of the compass plant. A careful examination of these at Gettysburg show that though numbers are polar there is a sufficient number having their edges in other directions to warrant one in hesitating about calling it a true polar-leaf plant.

Liquid Manure for Flowering Plants.

Flowers will be produced more freely if the plants are regularly watered with some liquid manure. This may be done safely as follows: Some good manure mixed with poultry droppings, or some artificial fertilizer (nitrate of soda is the best), is put in a barrel and steeped in water. The barrel should be kept full, and not more than two pounds of the fertilizer or half a bushel of the manure should go to a barrel of water. A pint of this liquid is poured on the soil around the plant every evening during the season. If the weather is dry the proportion of water should be doubled and a quart of the diluted liquid given.

OWLS.

The Clamorous Hunters of Small Game in the Stilly Night.

BY PROF. H. W. ELLIOTT.

Screech owls they are called, because with dismal cry
In darkling night from place to place they fly.—*Ovid.*

There IS PROBABLY no sound more uncanny or distressing than is the hooting of the big-horned owl or the wailing, half-human cry of the little screeching strix, if these birds are near enough to reach the ear of a restless sleeper during the still hours of midnight and early morning. Why it is that owls must make these diabolical vocal demonstrations in the very stillness of the darkest nights, or way into the early dawning of day, is hard to answer, unless it is done to so terrify small birds and animals that they will move in their fright and disclose their hiding places to these hooting, screaming, feathered hunters.

Furnished with the softest of pinions, they fly in perfect silence swiftly in and out through the branches of the thickest forestry, and were it not for their terrible cries they might flit in and out around the farmer's house for years upon years without being noticed or thought of by him; but since they are so emphatically hooters and screechers, the rural resident is put well in mind of their species, and, as a rule, dislikes them most cordially.

Owls are the most cosmopolitan of birds; they live everywhere, all the world over; in church towers and belfries; in barns and warehouses; in hollow trees and rocky clefts they rest and pass the daytime, though some of them are not strictly nocturnal, yet most of them are. They are a large family, some 200 species being known to naturalists, and with minor modifications their habits are everywhere the same.

They feed entirely upon animals and reptiles, and capture their prey alive; they eat insects, and are well known in certain localities where fish run in great numbers, or leap over falls in ascending streams, to feed upon them. Like all the other birds of prey, *Raptores*, they eject after a meal from their mouths in small pellets all the hair, feathers, and other indigestible substances which went down with their prey when first swallowed.

They make a rude nest of sticks and coarse grasses, and locate it where they elect to pass the day, because their large eyes are so adapted for night-seeing that they cannot endure the glare of sunlight, as a rule. This peculiarity and infirmity of the owl is well known to the little song birds which it pesters and frightens at night. They happen to find an owl outside of shelter in the daylight, and at once they begin to make life a burden to the unhappy moon-faced creature. A small flock of sparrows, wrens, thrushes, and the like, mobbing an owl, is an amusing spectacle to contemplate; the fierce, but impotent, hate that literally glints in the aching eyes of the owl, and the constant snapping of its beak, only seems to make its small tormentors more eager and zealous to continue the persecution of their detested enemy, for the owl is a true Ishmaelite among birds.

In a general way the farmer learns soon to know what sort of an owl it is that wakes him up at night or very early in the morning; if it hoots, and gasps and pants like a person strangling, he knows that it is a big brown owl with horns; if it wails and screams like a little child in dire distress, and afar off, then he sets it down for a screech owl, and if not superstitious, he turns over and goes to sleep. But, if he be nervous, or the least bit fanciful, neither he nor his wife will rest until the lugubrious and sad wailing ceases; their children will usually draw the bed-clothes over their heads and refuse to be comforted.

Were owls to hunt and scream and hoot in their fashion by daylight, then they would not receive so much objurgation—they would not be called birds of ill-omen any more than eagles or hawks are, for they are both engaged in doing the same thing for a living and in the same manner, only the owl is strictly nocturnal, while the eagle is diurnal.

If the farmer's chickens roost in the trees during the warm months of the year, then the big hooting owls (*Bubo virginianus* and *Strix nebulosum*) are dangerous visitors to that locality; otherwise not, for they will not, as a rule, enter a well-appointed hen-house, even when it is wide open; but these larger owls are very fond of quail, of grouse, and all water-fowl that happens to rest at night on land. They are equally given, too, to the destruction of field mice, of rabbits, and every other small animal that happens to stir at night time. They clutch their prey in their powerful talons, swooping down upon it so swiftly and so silently that no resistance can be made.

The little screech owls, live largely upon our song birds and sparrows, which they flush up in their roosts at night, and also prey actively on field mice and insects. Then there is the barn owl, which makes little or no noise at all (*Aluco flammens pratincola*), and when established in a barn, is a better ratter and mouser than an army of cats; and the tiny, pigmy owls (*Nyctala* and *Micrathene*), which are not much larger than robins—all regular mousers and destroyers of insects. So take it all in all the owl family is really of great service to the cause of agriculture. But, nevertheless, the chicken-killing propensities of the big-eared owl make a somewhat shady character for him; because, if one of these bubos chances to locate a chicken roost outside in the branches of some well-adapted tree, it will remain in that neighborhood, taking a fowl every night until the entire roost has been eaten, or until it has been killed by the angry owner of the poultry.

A horned owl (*Bubo*) will strike a fowl as it sits at night on a tree branch with such a sudden and deadly grip of its dagger-like claws and feet as to kill the victim ere it can even cry out at the moment of capture. When a coon or a weasel is at work in the coop, there is always more or less noise attending their operations, because they cannot kill their feathered prey so quickly but that the hens have time to make that outcry which is so well known to the farmer, when roused up by it, at night.

These long-eared owls are perfectly nocturnal in their habit; and, though they never migrate and are common in the whole of North America, yet they are seldom seen, being secluded and screened from casual observation in thick forests, thick bushes along stream margins, canyons, caves, etc.

The burrowing owl (*Speotyto cunicularia*), is a queer member of this big family, but not found outside of western North America, and then only in the plains, where treeless districts are extensive and inhabited by prairie dogs The deserted burrows made by these quadrupeds and by badgers and foxes are occupied by these owls for resort and breeding, and wherever taken they are residents. The farmers of Kansas, Nebraska, Wyoming, Dakota, Montana, Colorado, New Mexico, and California all know this owl as it bobs in and out from the burrows which it occupies, and apparently shares with the gophers and prairie dogs which are running and barking all around it. In Florida is another race, smaller, of this burrowing owl, but it is isolated and local. This genus is confined to America, and hunts by daylight, and avoids all timber or shrubbery, living upon small reptiles, birds, and insects.

No bird could be better gotten up for the purpose of inspiring superstitious notice than the owl is. His large, broad head, with a "face" defined by a ruff, a circlet more or less complete of radiating feathers, out of which glare and wink a pair of big baleful eyes, set also in another circlet of bristling, radiating feathers, make an impression that is not easily removed from the mind. The Ancients indowed them with many dismal attributes, and the savages of all regions have the utmost regard and fear of them. The sudden hooting or wailing scream of an owl has broken up many a war party of North American Indians, as it prowled about the camp in the dead of night, and it has stimulated an immense amount of poetry from the earliest writings down to the present hour—from Ovid and Virgil to Gray.

"From yonder ivy-mantled tower
The moping owl does to the moon complain
Of such, as wandering near her secret bower,
Molest her ancient solitary reign."

When a nocturnal owl is discovered during the day by a bevy of diurnal birds, and it happens to sit in some exposed situation, then it is soon mobbed, and the noise and fluttering will attract attention from afar. I have seen a squad of crow blackbirds (*Quiscalus*) pursue a horned owl with shrill screams and vindictive peckings all through a five-acre grove; then, when the bubo, tormented beyond all further endurance, struck out over the open fields for the shelter of the hills way beyond, these blackbirds followed it as far as I could see them. On another occasion I saw a large owl sitting on the dead branch of a poplar tree which overhung a fish pond at the high hour of noon one bright day. Around it buzzing, fluttering, and screaming were not less than 50 or 60 small warblers—wrens, jaybirds, orchard orioles, and sparrows. The noise was immense, and the owl, stupidly blinking, twisted its head and neck so as to glare and snap its beak in every

direction at one time. Puffing up its feathers and half opening its wings, it would now and then thrust out a foot at its enemies with a most suggestive gripping of its sharp talons. The birds all struck this owl in one way when they struck it at all; they came down upon its crown or back from above—from no other point of approach could they safely reach the semi-blind and bewildered owl.

When the owl flew for shelter, these tactics were vigorously followed up by the same bevy of birds as far as I could trace the disturbance, until it was lost to my eyes; and the thought occurred to me that it was quite singular that these birds should be able to accurately and positively understand that certain species of owls cannot see at all during daytime, and that others, which closely resemble them in size and plumage, can see as well by day as any diurnal bird of prey. Had this bevy of little birds, as above specified, attempted to fool or worry a hawk owl (*Surnia funerea*), they would have instantly met with death—each and every one of them that attempted the experiment.

Another queer feature of the mobbing of a big owl by a squad of small birds is the fact that the victim never makes any outcry whatever, even when it is fairly boiling over with wrath. I have thought that if it would only give those little tormentors the full benefit of its ghostly hollow hootings and wailings, that the end of annoyance from them would at once appear.

SUGAR-BEET CULTURE.

Excellent Prospects in Nebraska—A Much Greater Acreage than Last Year.

The weather of the past 14 days has been all that could be desired for sugar-beet work. Planting has been practically finished up upon the large Nebraska beet farms. The seed which was planted on and after the middle of May has come up quickly and regularly, and there is an excellent "stand." Upon some of the earliest planted ground hoeing and horse-hoeing is now proceeding, and the work of "thinning out" will commence in the coming week.

There has been during the past four weeks an excellent opportunity to watch the action of temperature upon the germination and growth of the young plantlets. We observed certain tracts where the seed was planted the first week in May, when the temperature of the soil varied from 37 to 45 degrees. In those examples the seed did not appear to move during the first 10 days, and it was 15 days before the plantlets were seen above the ground. On May 24, when the temperature of the soil had risen from 52 to 56 degrees, seed was planted, and the plantlets were visible the whole length of the rows in eight days, and were seen breaking through the soil on the sixth day from planting.

This planting season is marked by climatic conditions the most extreme opposite of last year. Last year, from April 20 to June 2, the whole rainfall did not amount to one inch, whilst during the same period of this year some 10 inches of rain have been registered. The latter amount is as much above the normal rainfall for the State of Nebraska as the precipitation of last year was below.

We are of the opinion that the promise of a full crop with a high content of sugar is equal or better than were the indications at the same date last year. A vastly greater area of the land intended for beets was prepared last Fall, and the consequence was that the soil was in a better state of tilth, and was altogether better prepared for the reception of the seed and the straighforward production of a crop. We are, however, depending upon the character of the weather from now on to July 15, after which date it is, almost without exception, favorable to the forming of sugar and the maturing of the crop. Unless June and the early half of July should be unseasonable, the beet crop of this year will most likely be the best that has been grown in this country.

Reports from Europe indicate that the high promise of which we spoke in our last contribution has not been maintained. The favorable weather in April and early May, which allowed the ground to be well prepared and the seed to be planted very early, relapsed into semi-Winter again. It is said that some of the earliest plantings were actually cut off by frost. From France we learn that, although the planting was almost finished on May 15, a large area will have to be replanted on account of the damage done to the first plants by snow and frost. A later account says that the crop in France is not well assured. The plants germinate and come up very slowly, and that the forwardness noticeable in April and May has been wholly lost. Heat and moisture are both in sore request.

From Germany we are told that the month of May opened with heavy falls of snow and killing frosts. The early plantings have been in great measure damaged and destroyed, and replanting, which is extremely bad and disadvantageous, has to be done. Now, as in France, the German beet-growers are crying out for moisture and warmth. The gain of the early season in April has disappeared, and growers are feeling anxious for the crop. All the European countries, excepting Russia, have suffered from the severe inclemency of the weather following the genial time in April, when the early planting was done.

The beet crop of Europe this year is still expected, in respect of acreage, to be almost identical with the crop of 1891.—W. MAXWELL, June 11.

To Lay Off a Field in Acres.

One acre having 43,560 square feet in it, any numbers that multiplied together will make this will contain an acre. If the acre is square the sides should be 210 feet, which is as near as one can get in round numbers. A square 10-acre field may be plotted in single acres by making divisions four rods apart across the field; these may be deep double furrows, which will be a permanent mark.

Table Decorations.

For a red table use a white linen tablecloth having a hemstitched border. Above the hemstitching embroider a border of scattered red tulips. When you are going to use this for an entertainment, take a box of any desired length and four inches high. Cover with scarlet crepe de chine. Make large bows of loops of narrow scarlet ribbon, and fasten at each corner. Fill the box with moss, and in this put red tulips standing upright as though growing. At each corner of the box stand a candelabrum holding red candles each with a scarlet silk shade. Put a bunch of red tulips tied with scarlet ribbon at each lady's plate. If gentlemen are present, use scarlet carnations for boutonieres.

For a lavender table a fine linen tablecloth with hemstitched border is also needed. In each corner embroider a huge bunch of violets, and scatter over the cloth small sprays of the same flower. In the center of the table place a glass such as the rose bowls stand on, and around it put a border of violets six inches wide. On the glass stand a small vase of cut glass or clear pressed glass with figures of gold. In this arrange white and purple lilacs. At each end of the table stand a gilt banquet lamp with lavender silk shades. Use china if possible, with Dresden figures of violets. Plain, gold-banded china would be pretty. Place a bouquet of violets at each plate.

These descriptions are given from which hints may be taken for use, even if the tables are far less expensively arranged. It is the general idea that is needed.

A Remarkable Family of Horses.

We present upon this page a picture of a remarkable group of horses, made from a photograph. They are thoroughbred Shetland ponies, owned by Dr. I. C. Jackson, Jamaica, L. I., who bred them all. The tallest is Fairy, a brown mare, by imported Imp; dam, imported Lucinda; foaled May 31, 1889. May 4, 1891, she dropped sorrel filly Fay, by imported Superb. The mother was then only one year eleven months and four days old.

This mare has further emphasized the wonderful fecundity of this family by dropping a second colt, also shown in the picture, just as she was coming three years old.

Fairy is 38 inches high at the withers. The sorrel filly Fay is 36 inches high, and Sprite, the sucking colt, a brown stallion, is 21 inches high. So far as known, the records of horse breeding show no instance prior to this of a mare with a yearling and suckling colt before the age of three years old.

The group will be shown at the annual fair at Mineola, Long Island, this month, and will undoubtedly attract much attention among horse-breeders as an equine curiosity.

Fashionable Fad.

A fashionable fad for this season is what is called "Gourd Decoration." The designs are traced with pen and ink, and these are either done in what is called poker work or washed in in water colors. Most of the designs give an idea of the use for which the article is intended. One way of preparing gourds is to oil the surface well, then scratch in the design, after which rub the whole over with lamp black and oil. These sink into the engraved lines and show them off.

Another fancy is to use sea shells for purposes of decoration. They are always beautiful and need very few art touches, because nature has made them sufficient of themselves for all purposes of adornment. A pretty swinging shell in the window filled with German ivy, and the Jew plant, which grow rapidly and thriftily in water, may be used for this purpose. The long, tapering shells can be hung and filled with water, and then branches of English ivy put into them. Some of the pretty ones can be placed on the bureau or can be used on the writing desk to hold postage stamps or pins. Sometimes they are made receptacles for scraps. In fact, they may be employed for many purposes both useful and beautiful.

The effect of china hung in a closet or against the wall is always made much better by a pretty background; usually crimson has been considered the best color for this use, it being rich in tint and durable. Another pretty background is canary-yellow silk, which shows off the delicate tints of the china in a most charming manner.

PROGRESSIVE AGRICULTURE.

The Most Recent Discoveries, Developments, and Ideas in the Science of Farming.

Leguminous Plants and Nitrogen.

NO GREATER advance has been made in scientific agriculture in the last 25 years than the determination of the peculiar relation of leguminous plants to the assimilation of nitrogen. These plants, of which peas, clover, and beans may be taken to be typical representatives, may not be the only ones which are capable of showing more nitrogen in their composition than has been derived from the soil and fertilizers, but, at least, they form the class whose powers in this direction have been clearly and definitely determined.

In the decay of vegetable and animal matter there is always a certain loss of nitrogen, due to a decomposition of nitrogenous compounds, and the escape of this substance either in a free state or in a state of low oxidation. There are also certain denitrifying ferments which help to the decomposition of such compounds and consequent loss of nitrogen. Further qualities are lost by the escape of ammonia, by loss of nitrates in drainage waters. Immense quantities of nitrates thus eventually find their way into the sea, and are lost to agriculture forever, or, at least, until they return in fish manure or otherwise to the cultivated fields. Unless, therefore, nature should provide some way to restore these losses, there would evidently come a time when the available supplies of nitrogen would be threatened with exhaustion.

Beds of stored nitrates, such as are found in Chile and Peru, deposits of guano, etc., are sources from which this loss may be temporarily restored. So are likewise the immense schools of menhaden and other fish which are captured and converted into fertilizing material. But these sources of nitrogen have but little value for the farmer far in the interior, who can ill-afford to pay both the high price for such manures and the great cost of transportation. An advance in agriculture, therefore, which may show him some domestic supply of this most expensive fertilizer, cannot fail to prove of the utmost practical advantage to him. The value of clover crops in enriching the soil has long been known, and clover is now grown largely for fertilizing purposes. Whether this valuable property is due to direct assimilation from the air, or from making available the stores of plant food in the subsoil, will not here be discussed. More to the point, by way of illustration here, is the custom largely practiced in the South of sowing peas for fertilizing purposes. A dense growth of pea vines turned under by the plow is one of the best manures which can be applied to soils where long cultivation has made great inroads on the supplies of available nitrogen.

The success which has attended this method of culture is such as to encourage a wider application of it. There is no reason why a method of fertilizing which has met with so much success in the cane fields of Louisiana may not also be applicable to the Indian cornfields of Indiana. The writer has had a little practical experience with this method on a wornout field in Maryland. The soil of this field is a clay loam, but rains and continuous exhaustive cultivation had removed the greater part of the loam. The land had become so poor that, to use an apt illustration, it would "hardly sprout peas." It received a dressing of stall manure, and in the Spring of 1890 was sown with peas at the rate of a little over one bushel per acre. Just before the peas were ripe they were plowed under, and in September wheat was sown. In February of this year grass seed was sown on the same plat. The result is that a barren field has been transformed into a garden, and at comparatively small cost. To have secured the same result by the direct application of commercial fertilizers would have proved far more expensive. Not only is fertility secured in this way shown in a single crop, but even without any additional fertilizing the result of this one attempt will doubtless be manifested for many years.

Such experiments can be tried by every farmer on a small scale at first, until he is assured that good financial returns await a wider application of this principle. It is better by far to miss one crop altogether from a field if thereby it be put in a condition to yield large returns for many years to come. There is scarcely any farmer who may not spare one small field every year to be devoted to improvement, and if this course is strictly followed, it will not be many years before the whole place is transformed. Of course, there are yet thousands of farms in this country that are still so fertile that the necessity for special treatment does not exist. On the other hand, there is doubtless an equal number where it does. A vacation is good for the land as well as for the laborers, and every field should have its "year off," now and then.

Experiments of Lawes and Gilbert with Leguminous Plants.

The good which can be done with a private fortune has rarely received a richer illustration than in the case of Sir J. B. Lawes, of Rothamstead, England. Half a century ago, while still a very young man, he determined to devote an independent fortune to the improvement of agriculture. In carrying out this resolution he was exceptionally fortunate in associating with him a young chemist, Joseph Henry Gilbert, and these two men have won immortality together. Lawes and Gilbert is a phrase which means quite as much to agriculture as the name Liebig does to agricultural chemistry. These men have now grown old, but they press forward in their great work with unabated vigor and increasing power.

Age has brought to them knowledge without decrease of strength, and they are living to gracefully receive the honors which come to most great benefactors only after death. According to these great authorities, the scientific interest and practical value of leguminous crops depend chiefly on the amount of nitrogen which they contain and especially on its sources. There are great differences found here in comparison with other families of plants, and a wise advantage taken of these differences must of necessity prove of the highest practical importance to the farmer.

It is well known that under the conditions in which crops are grown in ordinary agriculture, nitrogenous, manures have very direct effects in increasing the product of wheat, barley, oats, turnips, maize, potatoes, and other field and garden crops. In cereals the increase consists chiefly in starch and cellulose, which contains no nitrogen. In root crops, such as beets and turnips, this increase is chiefly in sugar, which also contains no nitrogen, while in potatoes the increase is largely in starch. This curious fact, therefore, appears, viz., that a nitrogenous manure in many crops is chiefly valuable because of its tendency to increase the product of a non-nitrogenous nature.

On the contrary, leguminous crops, whatever be the nature of the fertilizing material used with them, tend to increase the quantity of combined nitrogen. It is thus a sound process of agricultural reasoning which leads us to ultimately increase the product of cereals, etc., by first increasing the stores of available nitrogen by the previous growth of crops of a leguminous nature.

As a result of 20 years' experiments with wheat, it was shown that one pound of nitrogen, in the form of ammonia, increased the yield of carbohydrates (starch, etc.) 28.8 pounds; while in the form of Chile saltpeter (nitrate of soda) the increase was 36.5 pounds. With starch at two cents a pound, the manurial value of one pound of nitrogen as nitrate is, therefore, 73 cents, while its cost is about 17 cents. This shows a clear profit of 56 cents. The actual profit is, however, much less than this, since, with carbohydrates is included the increase in cellulose, which is found mostly in the straw, and which has only a small commercial value.

In like manner, 20 years' experiments with barley show a mean increase of carbohydrates of 46.3 pounds for each pound of nitrogen, as ammonia, applied to the crop.

Three years' experiments with sugar-beets show an increase of 47.1 pounds carbohydrates, chiefly sugar, for each pound of nitrogen, applied as nitrate. With nitrogen, in the form of ammonia, the increase is less pronounced, being 37.1 pounds.

Eight years' experience with mangel-wurzels show an increase of 32.2 pounds corbohydrates for one pound of nitrogen, as nitrates.

With beans there is a marked contrast. The increase in carbohydrates amounted to only 5.5 pounds for each pound of nitrogen, as nitrates. This shows, in a most striking manner, how much more necessary nitrogenous manures are to non-leguminous plants; or, in other words, how capable leguminous plants are of supplying themselves with nitrogen without bothering the farmer about it at all.

These results are anomalous, but highly instructive. They show that the crops which are characterized by yielding a comparatively small amount of nitrogen over a given area, by reason of having a low percentage of nitrogen in their dry substance, and yielding large quantities of non-nitrogenous matter (starch, sugar, cellulose, etc.), are especially benefited by the nitrogenous manures, and under their influence yield greatly-increased amounts of the non-nitrogenous bodies named; whilst the leguminous plants, which contain a much higher percentage of nitrogen, and yield much more nitrogen over a given area, under the same soil and climatic conditions, are much less benefited by such manures.

Lawes and Gilbert do not attempt to give a full physiological explanation of this remarkable phenomenon. They, however, call attention to the fact that the non-leguminous plants, having limited powers of accumulating nitrogen, require especially nitrogenous manuring. The amount of chlorophyl formed in a plant is largely determined by the quantity of nitrogen available. Since chlorophyl is the active principle in forming starch, sugar, cellulose, etc., the nitrogen secures indirectly the formulation of these bodies by first promoting the building of the chlorophyl cells.

Historical Sketch of the Theory of Nitrogen Assimilation.

Nearly 100 years ago a distinguished French agricultural chemist, whose renown is scarcely inferior to that of Liebig and Gilbert, first took up the study of the problem of the origin of the nitrogen in plants. Boussingault endeavored to show experimentally the source from which the growing plants derived their supplies of nitrogen, and the results of his experiments were adverse to the theory that any portion of this supply came from the free nitrogen of the air or the soil. Lawes and Gilbert repeated these experiments at Rothamstead about 30 years ago, and reached the same conclusions that Boussingault had drawn from his researches.

In these experiments the samples of soil operated on were sterilized and inclosed so that no bacteria or other organism could have access to them. Under this system of protection the action of both microbes and electricity was excluded.

Under such conditions it is certain that higher orders of plants cannot assimilate free nitrogen either by their leaves or otherwise.

In this condition of affairs the problem remained unsettled because of the fact that certain plants seemed to produce more nitrogen than could be expected from the supplies of available nitrogen to which they had access. Scarcely 10 years

ago a flood of light was thrown on this subject by the researches of Hellriegel and Wilfarth in Europe, and of Atwater in this country.

Hellriegel and Wilfarth proved that while in sterilized soils there was no gain in nitrogen, in unsterilized soils there was quite a gain with leguminous plants.

The plants were all grown in washed quartz sand. To all the pots nutritive solutions, but containing no nitrogen, were added. To one series nothing else was supplied, to another a fixed quantity of nitrogen as sodium nitrate was added, to a third twice as much nitrogen, and so on. With the plants belonging to the grass family the growth was almost directly proportional to the quantity of nitrogen supplied. But with the leguminous plants this was not the case, the growth being out of all proportion to the nitrogen added to the sand. An examination of the peas which were grown in these pots showed that some of the plants had only a stunted growth, while others in the same condition grew luxuriantly. An examination of the roots of these plants showed that in every instance the roots of the stunted plants were smooth, while in the well-grown plants the roots bore nodules of various sizes and numbers. An examination of these nodules showed that they were produced by the action of a low organism. The conclusions was irresistable that these plants had been able to assimilate nitrogen by the aid of the organisms residing in the nodules. This discovery is perhaps the most interesting that has been in the domains of scientific agriculture in the last half century.

Having discovered this fact it was easy subsequently to reproduce these phenomena by inoculating the sterile sand with a soil infusion made with a few grams of a well-cultivated garden soil. The seeds of the microbes were thus introduced into the sand in the pots, and in nearly every instance luxuriant growth was obtained, and the resulting roots uniformly presented the nodulated appearance already described.

These experiments were carefully repeated by Atwater in this country, and the results of Hellriegel fully confirmed. Atwater was able definitely to say as the result of his experiments that plants grown in nutritive solutions exposed to the air but protected from rain and dew contained at maturity more nitrogen than was supplied them in nutritive solution and seed, and for this excess of nitrogen there was but one possible source, viz., the air.

What is the Explanation of the Fixation of Nitrogen by Leguminous Plants?

The brief study of the phenomena of the fixation of nitrogen which precedes leads up naturally to the problem of how it takes place.

Many years ago, about 1876, Berthollet, an eminent French chemist, saw reason to doubt the conclusions which had been reached by Boussingault, and asserted that plants did fix free nitrogen, and that this phenomenon was accomplished under electrical influences. Others were of the opinion that the absorption of free nitrogen was a function of the leaves, just as it is known that the chlorophyl cells of the leaves condense carbonic acid and water to sugar, starch, and woody fiber. In the light, however, of the facts set forth, there is no longer any reason to doubt that this absorption of free nitrogen is accomplished by microbes in the soil working on the roots of the plants. This process, like many another in nature, is difficult to trace. The little laboratories of the vegetable cell and the minute microbe accomplish wonders which the vast appliances of Harvard and Yale cannot even imitate. Obviously we must know more of the nature and habits of this organism before we can even trace the various steps by means of which its wonderful transformations are accomplished. Heretofore these organisms have only exhibited their activity in connection with leguminous plants. Why is this so? What is there peculiar to this family of plants which renders it a fit collaborator of the nitrogen-fixing organism? These are questions in which, at the present time, but little can be said. Indeed, in the first place, it cannot be asserted with safety that other plants are not in the same category with the legumes. Indeed, it would be rather strange if there were not other families of plants having the same properties.

In regard to the homes of the microbes—the nodules—there appear to be two kinds, the nodules proper and simple "swellings." The latter are chiefly on the main roots. The former are more abundant in the root fibers, and presumably are the more active in their functions.

Some investigators are of the opinion that the life of the root and the microbe are intimately inter-dependent, forming what biologists call symbiosis (a living with) and that apart from this intimate union the organism would have no nitrogen-fixing power. At the present time the more general belief is that the microbe itself is the carrier of free nitrogen, and that in its organism ammonia or nitric acid is formed, or some other assimilable nitrogenous compound, and that the plant itself utilizes this nitrogen in the usual way. Lawes and Gilbert say that it seems more consistent, both with experimental results and with general views, to suppose that the nodule-bacteria fix free nitrogen within the higher plant, and that the nitrogenous compounds produced are absorbed and utilized by the plant. In other words, there does not seem to be any evidence that the higher orders of plants themselves fix nitrogen, or that the fixation takes place within the soil; but from the evidence it is more than probable, indeed quite demonstrable, that these low organisms do fix free nitrogen in some way which makes it available for plant growth. This fact fully established, we have a new phenomenon in nature, viz., the power of a living organism to assimilate on elementary substance.

Importance of the Above Facts to Agriculture.

This subject has already been partially discussed in the preceding articles, but it remains yet to develop and emphasize it. There is no doubt of the fact that in the growth of leguminous crops, such as clover, peas, beans, etc., much of the good results obtained when these crops are used for manurial purposes is due to the fact that the total available nitrogen has been increased. Here, also, we find another illustration of the great conservative power of Nature in providing for the losses in nitrogen due to decay and drainage, which have already been mentioned. The practical farmer, however, must not make the mistake of supposing that this method of nitrogen fixation will cure the ills of every kind of soil. Indeed, there are many soils in which, for instance, clover will not grow, or at least grow only imperfectly. The soil must have the seeds of vitality in it before successful leguminous crops can be grown. Most of all, it must be richly provided with the bacteria germs which are to gather into the nodules and fructify the seeking roots.

It may often be necessary, therefore, to manure a field before it can be started well in its nitrogen-fixing career.

The success of potash in helping to make nitrogen more available has already been fully discussed in these columns. The influence of lime, phosphoric acid, common salt, and magnesia must also not be neglected. If the best success is to be secured, the wants of the soil in mineral matters must be carefully attended to.

Lawes and Gilbert very pertinently suggest that it may be well to consider in how far the failure of red clover, or of other leguminous crops, may be due to exhaustion of the organisms necessary for nodule development, and for the coincident fixation of free nitrogen, and how far it may be due to the exhaustion of combined nitrogen or of the necessary mineral constituents in an available condition within the range of the roots.

In Germany, following out in practice the principles established in these investigations, a considerable area of poor, sandy soil was devoted to the growth of leguminous crops (clovers, lupins, etc.), with the free use of kainit and superphosphate, and the soil was found to be greatly enriched thereby for the subsequent growth of cereals. In England, a Mr. Mason, of Oxfordshire, has been so impressed with the importance of these new principles in agriculture, that he has devoted 200 acres of his farm to a practical demonstration of them. His plan is to grow beans, peas, various kinds of clovers, etc., liberally manured with basic slag, phosphate, and kainit. The produce of the first year is converted into silage, and in the second into hay. The assumption is that in this way highly nitrogenous crops will be obtained with mineral, but without any nitrogenous, manure, and that the land will be left in high condition for subsequent crops of cereals. The nitrogenous crops first mentioned are grown for home consumption, and the stall manures thus made fed again to the land.

In practical work of this kind too much importance cannot be laid on the necessity of rotation even with leguminous crops. Clover, after a crop of cereals, should be followed with peas or beans, and another cereal or root crop before clover again. It is believed that a rational practice of the principles above outlined will introduce a new era into agriculture. In this country, unfortunately, the general practice of agriculture has been attended with a gradual decrease in soil fertility. The time has now come to reverse this order and to start our fields in the other direction.

Window Decoration.

A pretty window decoration is a very desirable thing, because it is a thing of beauty both to those within doors and to those without. They may be made very easily and require very little care. I refer particularly to the growing of plants and vines—not those that are in pots and require a ledge—but the hanging decorations. A very pretty one is a sponge, one of the fine, soft ones that can be easily selected and trimmed off, so that it is almost round. Through this pass a narrow ribbon, to suspend it by in the window. Moisten it just enough, so that it will not drip, and yet is damp all the way through. Then sprinkle flaxseed all over it, being careful to leave no places without them. Keep it damp, and in a little while the seed will sprout and grow, making a beautiful green ball.

Another pretty thing is to take a long sweet-potato, cut off the extreme ends, and put it into a wide-mouthed bottle, filled with water, then suspend it in a window, and it will soon sprout and grow rapidly, making a pretty vine, to be trained as desired. Pine cones may be taken, dampened, and the interstices filled with different kinds of seeds, which will grow if kept moistened. Indeed, almost any of the roots of plants like carrots, turnips, etc., may be made ornaments in the same way.

Get a wire basket of some pretty shape, and fill it with green moss. In the center put in the common whitish moss that florists use for packing. Then put in hyacinths, crocuses, and tulip bulbs, cover over with green moss, suspend it in a window, keep it moist, and let it grow.

Preserving Timber.

Any kind of timber, such as fence posts and bean poles, may be made much more durable by a thorough saturation with lime before they are set in the ground. The poles used in hop-yards and the stakes in vineyards are thus treated, and last longer than others not so prepared. The method is as follows: A pit is made of convenient size and depth and the poles or posts are set upright in it. Lime is thrown in among the timber, and when the pit is filled water is poured on the lime, which is slaked, and, of course, generates heat, by which the water and air in the timber are forced out; and as the timber cools afterward, the lime-water is absorbed into the pores of the wood. The lime has the effect of decomposing the albumen of the wood and thus prevents its decay, to which the rotting of the timber is chiefly due.

AMERICAN WOOL.

The President of the Ohio Wool-Growers' Association on the Wool Industry.

American Wool-Growers Can Supply all Wool Needed in the United States—South Dakota and Wyoming Can Produce all Needed Carpet Wools—The Black Hills' Mining Regions Mineral Wealth of the Black Hills—A Field for Investment for Eastern Capital and for Washington City People.

THE WOOL tariff act of 1867 was the first and only sufficiently protective tariff on clothing and combing wools—that is, on Merino and the long wools. It was not sufficiently protective on carpet wools, and it was so made, for two reasons; first, a member of the Senate took an active part in securing a low duty, and, secondly, it seems to have been then partially admitted that American wool growers either could not, or would not, produce sufficient carpet wools to supply American needs. This idea was industriously inculcated by carpet manufacturers then, and has been ever since, and it was for too many years acquiesced in by American wool-growers. I think I may claim some credit for being among the first to insist in our National and State Wool-Growers' conventions and elsewhere that American wool-growers can and, with fair protection, will supply all needed wools of every kind.

No impartial man, well informed, doubts our capacity to produce all needed Merino and long wools.

Occasionally it is said by some free trader that Australian Merino wools are better than American, and hence are needed by our manufacturers to mix with ours for successful manufacturing.

This strangely overlooks the fact that Australia procures her best Merino sheep from Vermont, and they deteriorate somewhat in Australia by reason of its climate and other conditions.

The Boston *Journal of Commerce* of May 28, 1892, a free wool journal, referring to samples of delaine Merino wool sent from Washington County, Pa., with an inquiry on this subject by a wool-grower there, says editorially:

> We will say that his samples have all the good characteristics of Australian wool of the best sort. This can be said of much of the best grown Merino wool in that part of Pennsylvania and in some parts of Ohio. To the advantage of American wool, may it be said, greater reliance can be had regarding its strength than Australian wool.

The American Consul at Sydney, New South Wales, G. W. Griffin, in his report to the Department of State, March 23, 1891, says:

> The samples of American wools, and especially those grown in the State of Ohio, sent to the Melbourne International Exposition were admitted by experts to be far superior to anything of the kind ever grown in these colonies.—Consul Reports No. 128, May, 1891, p. 112. Bulletin National Association of Wool Manufacturers, Sept. 1, 1891, p. 307.

Charles Fletcher, of the Providence Worsted Mills, in a letter Feb. 18, 1890, said:

> The talk of "mixing" Australian wool to make goods required for this market is all nonsense, as Australian wools are only used largely here when they are cheaper than domestic wools.

William Whitman, the eminent President of the National Wool Manufacturers' Association, has borne his testimony that the "American wools are better adapted to the fabrication of clothing" for the American people than any wools grown.

CARPET WOOLS.

American wool-growers can and soon will, with fair protection, produce all the carpet wools needed in this country. This has been proved in Senate Miscellaneous Document No. 149, first session 51st Congress, May 22, 1889.

It is sometimes claimed that American wool-growers will not find it profitable to raise so-called carpet wools. This again is a fallacy. This country needs 25,000,000 sheep of the best mutton variety—the Downs, Shropshires, Lincolns, etc—producing an average of seven pounds of wool per head, or in all 175,000,000 pounds unwashed. More than one-tenth of this consists of "hiplocks" and "breech" wool, 17,500,000 pounds, so coarse and heavy as to be fit only for carpets, and it is this wool that Ohio is directly interested in preserving to the wool-growers of this country the whole of the so-called carpet wool production. Capt. A. E. Shepard, formerly President of the Texas Wool-Growers' Association, has testified before the Committee of Ways and Means in Congress that Texas alone can produce all the third-class wool, and under proper conditions will do so. The able Statistician of the Department of Agriculture, Prof. J. R. Dodge, in his monthly report for June, 1890, said:

> So-called carpet wools, worth from 8 to 28 cents per pound, used for the coarsest carpets and for the finest fabrics, have been imported at a discrimination (low duty) utterly trivial and ineffectual. But for this American manufacturers would consume very little except American wool.

SOUTH DAKOTA AND WYOMING SHEEP HUSBANDRY.

I recently went with an excursion party from Omaha, Neb., to Deadwood, in the Black Hills of South Dakota. These Hills include a region about 100 miles long north and south and about 50 miles wide east and west in the southwest part of South Dakota and east side of Wyoming. The Fremont, Elkhorn, & Missouri River Valley Railway passes along the east side of the Hills, and the Burlington & Missouri River Railroad runs along the west border, with a branch through the central portion from Edgemont near the south line of South Dakota to Deadwood, a distance of 107 miles.

On this branch 16 miles north of Edgemont is Minnekahta, a railroad station with a branch railway running 13 miles east to Hot Springs, where a branch of the Fremont, Elkhorn, & Missouri Valley Railroad runs east to its main line. Thus the Black Hills have a railroad east and west across their south base and north and south through their center, and along the east and west sides. Among these Hills are fertile valleys and level plateaus and rich hillsides covered with nutritious grasses, and I learned from Maj. Fred. Evans, of Hot Springs, that sheep had been kept through the whole Summer and Winter grazing and in good condition on grass alone. But the valleys and plateaus can be made to produce hays, oats, and other grains to make this one of the finest regions on the continent for sheep ranches and sheep husbandry, especially in view of the market for mutton made by the mining towns already there, and others that will doubtless spring up.

The American Sheep Breeder of May 15, 1892, says:

> The wool-growers of South Dakota have a stanch friend in Hon. W. W. Taylor, the State Treasurer, who improves every opportunity to aid in bringing this industry to the front. He has some $30,000 or $40,000 invested in sheep, which he loans out to farmers on shares, and is constantly on the lookout for new investments in this line.

This same business, I believe, can be carried on successfully in the Black Hills. Here is an opening for Eastern capital and enterprise. The mines of gold and silver, and tin, and mica, and gypsum, and coal in this region already developed, and other mines doubtless yet to be found in greater abundance, make this an inviting field for capital. Between Edgemont and Hot Springs is a large sheep ranch which has been in successful operation some years. Here is a region to produce carpet wools in great abundance. Here is the place to make a market for mutton. One of the best gold mining fields on the continent now being successfully worked is near Deadwood. On the central line of road is Hill City, called the great "American Tin Center."

NEW TOWNS.

Francis C. Grable, a prominent citizen of Omaha, has, in company with others, secured the title for four town sites on the line of road between Edgemont and Deadwood, all now stations on the railroad, to wit, Chilson, Minnekahta, Pringle, and Rochford, and eight town sites on the main line of railroad between New Castle and Sheridan on the west side of the Hills, and will soon proceed to lay them out in due form and put them on the market. Thus the Black Hills' region will have opportunity to attract to it new population to develop the mineral and lumber and ores and agricultural resources of South Dakota and Wyoming.

These new States can supply all the carpet wool needed in the country. These States are inviting fields for Eastern capital, and Washington City people can find ample opportunities for investment in sheep ranches, mines, and new towns and cities.

THE AMERICAN FARMER should add "Wool-Grower" to its name, and find thousands of subscribers in these new States. I have read every number since it started in Washington, D. C., and I commend it to the wool-growers of the United States.—WILLIAM LAWRENCE, President Ohio Wool-Growers' Association, Bellefontaine, O.

Flemish Cows.

The Flemish cows are rapidly coming into competion with those of Holland, which here are strangely called Holsteins. These cows furnish the larger portion of the milk that is supplied to the city of Paris, and a French agricultural journal thus describes them: "In the Flemish race the milking propensity is generally a little less strong than in the Hollandaise variety. During the first three months an average of 20 liters of milk is easily obtained, and in the following months it descends to 15 liters and even to 10 liters. For a milking period extending over 10 months the average approaches 4,000 liters (1 liter equals about 1¾ pints). This excellent milking propensity in the Flemish race explains the sexual selection which is so strongly observable, the breeders raising mostly female calves. Four-fifths of the bull calves are sold in the first weeks of their existence, either directly to the butchers or to be fattened.

"Flemish cows are very much in request as dairy cows, and these are they which form the majority of the milk producers of Paris. They are bought freshly calved, and when the milk production falls to 8 liters per day (when they have been calved eight or nine months) they are fattened and sold to the butcher. This breed is remarkable for the ease with which it is fattened. The live weight of an adult Flemish cow varies from 1,040 to 1,050 pounds, and after being fattened the weight varies from 1,260 to 1,470 pounds. The cantons of Bergues, Bailleul, Hazebrouck, and Cassel pay most attention to fattening beasts, and furnish the best animals for killing. At the recent fat-stock show at Lille young fat cows weighed at three years old from 1,470 pounds to 1,680 pounds, and even more. Their return of meat is 60 to 62 per cent. and 10 to 15 per cent. fat. The meat is tender, but generally wanting in flavor. The only fault beyond this which can be found with the race is that they are easily attacked with pneumonia, and it is these animals which usually bring this disease into the Parisian stables."

This breed seems to fill all the requirements of the all-purpose cow so anxiously searched for by some persons.

A prominent doctor of Los Angeles, Cal., has a collection of over 6,000 birds' eggs, including almost every variety known in Europe and America.

WOOL EXHIBIT

At the World's Columbian Exposition—Liberal Premiums Offered at Chicago in 1893.

THE farmers and wool-growers of all the States and Territories are deeply interested in the World's Fair next year at Chicago. It seems strange that the County papers and even the agricultural papers have not given full instructions on the subject of exhibits. The wool samples should be taken from the clip of 1892, and be prepared as soon as practicable.

TWO CLASSES OF EXHIBITS.

One class of exhibits will be made either through the Executive Commissioner or Chairman of the Executive Committee at the Capital of each State and Territory. The following is a sample of the circular published for Ohio:

OFFICE OF EXECUTIVE COMMISSIONER FOR OHIO,
COLUMBUS, April 30, 1892.

EDITOR AMERICAN FARMER: The Board of World's Fair Managers have prepared a liberal line of premiums for agricultural exhibits, and desire to make the following announcement:

They offer for the finest display of yellow dent corn, for the first $15 and the second $10; the same for displays of yellow flint corn, white dent corn, white flint corn, pop corn and sweet corn.

For the finest display of Winter wheat in grain, $15 and $10; for the finest display of wheat in sheaf or straw, $15 and $10. The same premiums are offered for oats, barley, rye, and buckwheat.

For the finest display of native and cultivated grasses, first premium, $100, second, $50; clovers, $15 and $10; broom corn, $10 and $5; sorghum, $10 and $5.

Of vegetables, the finest display of potatoes, crop of 1892, $20 and $10; sweet potatoes (including yams), $10 and $5. Beans and peas, each, $15 and $10. For special display of sugar beets, to be made Oct. 9, 1892, for two weeks, $25 and $10. For special display of potatoes, made Sept. 11, 1893, from crop of 1892, for two weeks, $50 and $25. For the finest display of roots and tubers, other than potatoes, crop of 1892, $50 and $25. The best display of squashes and pumpkins, $15 and $10.

For tobacco, they offer $10 and $5 for each of 12 varieties, and for the best display of tobaccos green, cured and manufactured, $20 and $10.

For wools, they offer for the best fleece from lamb, $10 and $5; best fleece from sheep under two years, sheared before, $10 and $5; for the best fleece from sheep over two years, $10 and $5. These same premiums are offered for American Merino, Delaine, Shropshire Down, Southdown Oxford Down, Long Wool, Crossbred Merino, and Long Wool. They also offer for the best and heaviest fleece of fine wool, $15 and $10; long wool, $15 and $10; for medium wool, $15 and $10. For the finest display of long wools, $15 and $10, and the same for fine wools and Delaine wools.

The name of every exhibitor will appear with his exhibit. We are are not prepared to publish a line of premiums for dairy products, but it is probable that liberal offers will be made.

For perishable vegetables special exhibits will be arranged during the exhibition in the season of each class of vegetables.

It is hoped that the farmers and trucksters of Ohio, the wool-growers and dairymen, will take an interest in this exhibition. The honor of the State is at stake. All the Western States will make their best possible show, and Ohio cannot afford to fall behind. There is no State capable of producing a larger variety or finer products in any of the above lines than Ohio. We hope that this line of premiums will bring out the best we have or can produce. Those desiring to compete can notify either Daniel J. Ryan, Executive Commissioner, Columbus, or L. N. Bonham, Chairman Executive Committee, and proper blanks for making the entries will be forwarded. The design of the exhibit is not only to show our best products, but to make it instructive as to the classification and manner of production.

Exhibits will not be received until after Oct. 1, except such as are shown at the Ohio State Fair. These may be turned over to the Executive Commissioner at the close of the Fair and save the exhibitor transportation and further trouble.

For further information, persons interested will address Daniel J. Ryan, Executive Commissioner, Columbus, O., for premium lists, which will give premiums in full with rules and regulations governing the exhibit.

Very truly yours, L. N. BONHAM, Chairman.
DANIEL J. RYAN, Executive Commissioner.

IMPORTANT CIRCULAR LETTER FROM THE OHIO STATE WOOL-GROWERS ASSOCIATION.

Hon. Daniel J. Ryan, Executive Commissioner of the World's Fair, is distributing the following letter throughout the State of especial interest to farmers and wool-growers:

To the Wool-Growers of Ohio:

The World's Columbian Exposition will open at Chicago May 1, 1893, and close Oct. 3, 1893. There will be a department of agriculture, in which will be exhibited the best specimens of every variety of wool from all the countries of the world. Australia and New South Wales will make wonderful exhibits, and Ohio can surpass them if flockmasters will do their duty to themselves and the State. Now is your chance to demonstrate that we are able to produce finer and better wool than our foreign rivals. The future of our sales and prices will be affected by the exhibit we make of Ohio wools at the Columbian Exposition.

If we fail in this contest for supremacy, all the agricultural industries of our States and Territories will suffer injurious consequences from which we may not recover in many years.

As you are about to take this year's clip see that you select the choicest fleeces for exhibition at Chicago. See that they are in prime condition before shearing, and then put up the fleeces in better condition than ever before.

Quality you have, condition you must secure by extra care. Read what the American Consul at Snyder, New South Wales, G. W. Griffin, in his report to the Department of State, March 3, 1891, says:

The samples of American wools, and especially those grown in the State of Ohio, sent to the Melbourne International Exposition were admitted by experts to be far superior to anything of the kind ever grown in these (Australian) colonies.—Consular Reports, No. 128, May, 1891, p. 112.

I most earnestly invite wool-growers to aid in the good work of the Exposition. The name and address of every wool-grower will be exhibited with his fleeces.

A very liberal line of premiums has been offered by the World's Fair for Ohio, so that you have not only the prospects of immediate reward, but future reputation and profits, for every point of excellence produced.

Most of the Ohio wool is met with the competition of Australian wool, which is imported, skirted, and in the best possible condition.

Notify D. J. Ryan, Executive Committee, Columbus, O., that you intend to compete for some of the many premiums offered, and he will send you blanks, premium lists, and other necessary information.

WILLIAM LAWRENCE,
President Ohio Wool-Growers' Association.
N. W. COWDEN, Secretary.

A SECOND MODE OF SENDING EXHIBITS.

In addition to the exhibits to be made through the officer for the State at Columbus, wool exhibits are to be made through Edward A. Greene, Chairman Committee on Wool Exhibits, 24 South Front street, Philadelphia, Pa., for the Department of Agriculture at Washington. The following are the instructions for these exhibits:

Selection.—Samples should be taken from the body of the fleece, and be perfectly clear of skirts. The whole of each sample should be from one fleece and all in one piece, if possible.

Reporting on samples.—Blanks are furnished, on which should be filled in information concerning the wool sent, which will be useful in making a comparison of these samples with others grown under like conditions in other sections of the country. It is thought that the blanks will explain themselves. Write plainly, using ink. Do not use pale ink or pencil. Give all the information you can so far as you consider it reliable. After being filled out the blanks should be placed in the bags before they are sewed up.

Mailing.—Each bag has attached to it a penalty label, which will carry it through the mails without the payment of postage.

Judge William Lawrence, President of the Ohio Wool-Growers' Association, Bellefontaine, O., will furnish small sacks in which to send exhibits for Logan County.

Following is description of wool for exhibition by the United States Department of Agriculture at the World's Columbian Exposition:

Name of grower . . . . . Address of grower . . . . . .
County . . . . . State . . . . . Character of . . . . . .
If cross bred, breed predominant (Merino, English, or Native blood) . . . . . .
Pedigree, if any . . . . . Age of sheep . . years. Weight of sheep . . . . . lbs.
Whether buck, ewe, or wether . . . . . Weight of fleece . . . . . lbs . . . . . oz.
Number of months' growth . . . . . Length of staple . . . . . Quality of wool . . . .

THE AMERICAN FARMER is the first among the agricultural papers to give full and explicit instruction on the subject. The foregoing circulars, etc., are given as samples. Wool-growers in each State and Territory can be informed by the proper officers at the Capital of each as to local officers.

PROGRESSIVE TOBACCO CULTURE.

Results of Experiments in the Line of Curing Tobacco by the Leaf-Curing Process on Wires.

The culture of tobacco in the Southern States is assuming a new development, and the 11th census shows that in North Carolina there are 27,250 farmers engaged in raising this crop, and they are making constant improvements in methods of cultivating and preparing it for the market. In 1889 the acreage in the State was 97,077, and the total produced 36,375,258 pounds, with an average value of 14.2 cents per pound.

Owing to the many types of tobacco which exist in different sections of the country and the various purposes for which cultivated, the methods pursued in the cultivation and curing must necessarily differ. The general custom as to curing, however, has been to cut off the stalk at the maturity of its leaves and cure the stalk and leaves together. Not until recently has the leaf-curing process, or that of curing the leaves on wires while the stalks are still standing in the field, been thoroughly understood and appreciated by any number of planters. The North Carolina Agricultural Experiment Station, desiring to gain knowledge on this point and to determine if possible which was the better process, conducted during last year a series of experiments on a farm in Oxford. The tobacco grown on this farm was of a yellow variety, known as the Currin, or White Stem. The plants had been transplanted from the seed-bed to the field in May, and were in rows, approximately, three and a half feet apart and three feet apart in the rows. The field was in the second year of cultivation, the soil a loose, gravelly loam, with clayey subsoil, and fertilizer had been sown at the rate of 400 pounds to the acre. One acre was laid off in the middle of the field for the purpose of the experiment, and was divided so that each half contained 25 rows of 242 feet each. Care was taken to mark this plat, so that it would not be confounded with the rest of the field. At 1 p. m. on the first day the pruning upon the leaf-cure plat was begun, and every precaution was taken to prevent any careless handling or the addition of any leaves from other stalks than those properly belonging upon the plat. The barn where the curing was done was three miles distant from the field, and the transportation over a rough road was disadvantageous in a measure to the test, as the leaves were liable to injury by being jolted and clashed together.

An extended account of the details of the different processes of curing will not be necessary, but an account of the results will prove interesting. Various piles from both cures, without any distinguishing marks, were placed on the floor of the warehouse, and five prominent tobacco men of Oxford were selected to attach to each pile what was, in their opinion, the market value. Each man was conducted to the room alone, and acted independent of the others, not knowing what previous estimates had been given to the piles. The estimates as given were surprisingly near to each other. On the next day the piles were placed upon the floor of the Granville County warehouse and sold in the usual way. From the half-acre by the stalk-cure 326.25 pounds were cured, at a total valuation of $38.29, or an average of $11.74 per 100 pounds. From the half-acre, by the leaf-cure on wires, 454 pounds were cured, at a total valuation of $63.14, or an average of $13.91 per 100 pounds. According to the results as given, the values are in favor of the leaf-cure process on wires by $20.66 for half-acre, or a total of $41.32 for the whole acre. No items for expense for cultivation, etc., are included in the above estimate, but it is clearly apparent that with proper attention this style of curing tobacco can be made more profitable in course of time than the old style of curing the stalks and leaves together

INTELLIGENT FARMING.

It is Brains that Pay—The Farmer Must Be as Well Educated as the Professional Man.

BY W. B. SANDS.

[An address before a Baltimore County (Md.) Grange.]

A HIGH order of intelligence, disciplined and trained to avail of the researches of science, to profit by existing lightning quickness of diffusing information, prompt to adopt advanced processes and use improved tools and machinery, alert to avail of the daily newspaper with its quotations from every market in remotest corner of the earth; educated to the calling and fitted to solve the daily and seasonal problems of the farm in the keen and searching light of to-day—these make possibilities of intelligence broad, generous, far-reaching, and abundantly satisfactory.

This means and must mean less groveling labor and more thought; fewer hours for toil and more for social relaxation and healthful ease; tastefully-adorned homesteads and contented families; cheerful wife and happy children, imbued with love of home and home surroundings and appreciative of opportunities of innocent pleasure. It means brightness and sunlight in the vocation; profit and not loss in the outcome; hope, not despondency; cheerfulness, not gloom; gains and not losses. It means touch with our fellows. No narrow rut dividing us; rather a broad sympathy with all who labor. But it means, too, that those who sow shall reap, and that he who garners shall store away in his barns.

It means green lawns, gem-like flowers, shrubs, and vines about the door, and books and pictures and heaven-ascending music around the family hearth; the daily paper and the daily mail delivered at the farmer's threshold, as it has long been at that of the favored city merchant. It makes possible—nay, it requires—interest, intervention, and influence in the deliberations of public, even of partisan bodies; it may be interpreted as the farmer's day in politics, when, no longer the pliant tool of the boss, great or petty, he thinks and acts and votes for himself.

The intelligent possibilities of the farm merely paraphrase what is possible, practicable, doable, when the well-balanced man, of sound mind in a sound body, fully equipped for his work, shall find on the farm occupation for his noblest powers, scope for his most patriotic aspirations; when his education, equal in degree if not wholly alike in kind, to that of the lawyer, the doctor, or the divine, shall qualify him to apply to its conditions, circumstances, and environment the radiant, focussed light of scientific investigation and research, and to call in all the helps which illumine his path, diminish his risks and enhance his gains, whilst opening to him at the same time the highest possibilities of American citizenship.

The farmer of to-day—though it is not a palatable truth to tell—is practically as firmly immovably attached to the soil as the serf of Russia. Change or move he cannot. Inured to physical exertion, he must labor from rosy morn to dewy eve. Rugged, long hours of unremitting and arduous toil are his portion. And, worse, his helpmate, whom he vowed to protect and cherish, must be his fellow yoke-bearer; and while some may descant of the glorious independence of the farmer's calling, its nearness to nature and to nature's God, of the dignity of labor, and find cause for gratulation that his is the hand that feeds the world, the unpoetical fact remains that he must, by exhausting expenditure of muscular and nervous fiber, force a reluctant and scanty living from his old grudging Mother Earth, few consolations in way of social enjoyment, infrequent chances for relief or holiday-making.

But let us seek the fault not in the stars; it is in ourselves.

Unhappily, the farmer of the day—I speak, of course, of averages—lacks intellectual development; fails to pursue farming as an intellectual pursuit, and (what is far worse) disparages and condemns brains, enlightenment, learning. Where may not be heard sneers at book learning—seen smiles at book farming? What farmer does not still pursue that good old rule of sending Tom, because he is his brightest boy, to college to qualify him for law, medicine, or the pulpit, and keep dull Joe at home as fit only for the farm? How rare in any community is the farmer who believes in his business, in its opportunities for advancement and for profits, and deems it socially on the plane with the merchant? Yet his profession is a broad and lofty arena where every process deals with Nature and Nature's operations; not with narrow rules and barren traditions of men's devising, but with broad laws bearing the stamp and impress of God's omnipotence.

The cause, then, of discontent, of want of success, of downheartedness, is lack of efficient education, want of association with his fellow-farmers, unwillingness to co-operate with them even for his own good, and too servile following of party standards.

Then the cure must be higher education, particularly better training for the business; application of the light which science gives; more astuteness in combining to effect reforms in local affairs which pinch closely at home; the cultivation of a clearer apprehension of the farmer's opportunity and responsibility for securing better government.

For many of us the hour has passed. We have lost our opportunity. Let us take heed that we show their's to those who follow us. Upon our children let us impress this lesson: That learning and thinking will pay; that not he who works hardest on the farm makes the most money; but that to study out one's work, discover one's resources, to be masterful in adapting resources to ends to be accomplished—these are the essentials to success. That mental power will always win. That brains are trumps.

Carried out to legitimate and final effect, this will make enviable the possibilities of life and work on the farm.

Shall I summarize them again?

Then, in that millennial day, behold our farmers not a whit behind our merchants, mechanics, engineers, and men of all professions, of whom it is our glorious boast, warranted by solid accomplishment, that no want has ever yet been felt in any material or intellectual field which has not been promptly supplied by American genius and American effort; there will be an era of productive farms; enervating and exhausting labor reduced to the minimum; more brains and less muscle; handsomer homes, sweeter with content and happiness; the farmer the equal in dignity and weight of the professional man; quite as well qualified for posts of honor, distinction, and usefulness; up with the times; "up to snuff;" no longer "the dear farmer" before elections, the submissive and silent vassal after; a student of books, of men, of markets, and of the great science of public policies, of which he at once forms foundation and capstone politics.

This involves higher thinking, nobler living. Needless to say, it involves a revived, rejuvenated, and enlivened grange; more patriotic and enlightened work by all associations of agriculturists.

But it all comes clearly, certainly, irresistably, within the absolute possibility of what intelligence may accomplish on the American farm, when the chief actor—not that I forget or underrate his brighter, lonelier, nobler other self—is so satisfactory a subject, so public spirited, so clear-headed, so progressive and aggressive a man as will then be the thoroughly aroused and intelligent American farmer.

Household Washing.

A few hints in regard to the washing of household articles may not be unacceptable. Of course, the first thing to be considered is the quality of the water; this should be always clear rain water when it can be obtained. If that is not possible, then other means must be taken. Sometimes soft water can be obtained, but is muddy and therefore not suitable. It can be cleansed by putting into a barrelful a tablespoonful of powdered alum. Let it stand a few hours and it will be clear enough for use. A very simple way to make hard water soft is to put to every nine quarts of hard water one ounce of quicklime, and let it stand until it becomes clear. Then pour it off into a barrel, leaving the dregs behind. Most housekeepers, however, have a way of their own.

There are various ways of doing washing in an easy manner. One that has been lately recommended is by the use of what is called water-glass. I do not know personally anything about it, but it is very highly recommended. In using this the clothes should be soaked over night in a solution of one part of water-glass to 25 parts of moderately hot water. In the morning add more hot water, and stir the clothes thoroughly with a stick; then drain off the liquid. The clothes will be found to be cleansed, but if it should chance that a few spots are visible, put a little soap on them and rub lightly until they disappear.

White flannels should be washed on a clear day in Summer, or in a warm room in Winter, but they should never be dried where there is any great heat, either natural or artificial. Make a hot suds with white soap and soft water. Dissolve in each quart of suds a level teaspoonful of powdered borax, and for the second washing use suds alone. While in the hot borax water push the flannels about, pressing and squeezing them thoroughly until the general soiling has been removed; then rub all the spots with the hands. Squeeze the water out and do not wring the garments. Put them into the second tub of suds, stirring and shaking them in the same way until cold enough to permit the squeezing them out of hot water. Lay each piece in soft cotton cloths and wrap it up to absorb the water; then hang it up to dry. White blankets should be washed in this way; then hang them up in some shady place to dry as quickly as possible, pinning one edge to the line and carefully straightening all the others.

The Food of an Ancient People.

Plentifully scattered through the relic-beds of Switzerland's lakes are fragmentary remnants of its ancient people's food. We learn that they were not cannibals, for amid a profusion of animal bones very few of the human species have been detected. The deposits of the earliest settlements prove that the inhabitants were ardent hunters, and then largely fed on the spoils of the chase. But in after ages, when farming occupations were followed to a greater extent, the flesh of tamed animals was chiefly eaten. The bones have mostly been split open, doubtless for the purpose of extracting the marrow.

Among the animals domesticated by the lake-dwellers were the ox, the sheep, and the goat. Their stalls, like their masters' dwellings, were upon the water; and quantities of the litter provided for them have been found in the mud of the lakes. Moss, which has also been largely discovered, is thought to have formed the sleeping couches of the household. Numerous wild fruits, such as apples, pears, plums, raspberries, blackberries, and nuts, were included in the vegetable diet of these Swiss aborigines, and the detection of apple parings testifies to a certain nicety in their cuisine. They cultivated the common cereals, wheat, and barley; and flat round cakes have been disinterred, and also several stones, between which the grain was ground.—*The Gentleman's Magazine.*

When you hear a little child use profane language you can be reasonably sure that his father shaves himself.—*Elmira Gazette.*

CHEDDAR CHEESE.

The Methods of a Successful Maker of this Famous Product.

BY JOHN OLIVER.

SCENE.—A farmhouse in Somersetshire. The dairy adjoins the kitchen, and consists of a room in which the cheese is made, a second room containing the presses, and a well-protected shed, in which stand the boilers for supplying hot water for the dairy work and for heating the curing-room. The cheese-making room has a circular tub of tinned copper on a wooden stand, a wooden trough (technically a "cooler"), a curd mill, and a number of vessels and implements, all useful somewhere in the processes carried on here. The evidences all around are of cleanliness, and we instinctively feel that the thoroughness essential to success is a strong feature in the management. Our meditations are brief, for the farmer's wife enters, and in a business-like way sets about the preparations for the day's cheese-making. This provokes remark—"So you manage your dairy in person, Mrs. H.?"

"Yes, I am my own dairymaid. My daughters help me, of course, and take a much greater interest in the work than servants would do, but so much depends upon the quality of the cheese that I give first attention to it. Better spoil the dinner than the cheese!"

"But, surely some parts of the process are of less importance than others, and could be left to unskilled persons to do."

"A mistake may certainly do more mischief in one part than in another; but there is not a single point anywhere which can be called unimportant, or in which a mistake would not, in some way, damage the cheese. It is difficult enough to make good cheese at all; but if care is not taken throughout, it is almost impossible."

"Now, Mrs. H——, you know that it is said that you cheesemakers like to throw a lot of mystery around your art, and to magnify the difficulties; but clever men say that, in reality, nothing is simpler, and that the whole of it may be reduced to a few scientific rules, by following which anybody can make good cheese."

"I do not believe it. I make no pretense of understanding the science of the matter; but I can get both prizes and prices which make my dairy profitable, and I never knew anybody do either by just following book rules. It all seems easy enough until you come to practice it every day, and then your rules fail, and you have to fall back on experience."

"Your success is well-known, and has been well-earned; but you must acknowledge that you have, even if you did not know of it, done that which is scientifically right, otherwise you could not have become successful. Rules which do not work out right in practice cannot be properly called scientific, and we cannot accept as such all that is so called, but science could really help you to understand your work by teaching you more than you think is possible about milk and its products, and by explaining the mysteries which sometimes upset your calculations."

"Well, you may be right, but I cannot tell among these new-fangled notions which are right and which are wrong, and while some of my neighbors waste their money and time, and spoil their cheese in trying to follow these scientific men, I keep on doing the best I can, and, after all, 'nothing succeeds like success.' I am willing to learn anything which will help me to make better cheese, but I cannot afford to take up new ways until they have proved to be better than my own. Now, I know the thermometer is a good thing. Years ago we all used to feel how warm the milk was with our hands, but experience has taught us that the thermometer is much more certain. But, then, for every new thing we have tried and found useful, we have had a dozen useless or mischievous ones, and that makes us cautious."

Can we blame? If we have not taken this fortress of empiricism, we have at least learned its strength and the right point and method of attack for the future. Evidently science must learn caution, too, and must prove the practical value of its discoveries before offering them to practical folk. What can be more unscientific than to advise changes in dairy management before establishing their real character and tendency, and that under conditions common to experience? Nevertheless, some people do not scruple in the name of science to present as safe for following the result of a few laboratory experiments, five minutes' microscopical observation, an ingenious, but half-digested thought, or a mere guess. If there was more caution with science there would be more confidence in the dairy. That is what we gather from our conversation and reflections.

In the meantime our friend has been busy. The night's milk has been skimmed, and some which had been set abroad in shallow pans has been added to the rest in the tub. "Why do you separate your milk into small quantities?" we ask. "The night was warm, and I find that milk keeps better in small than in large lots. When the weather gets colder I shall put it all together in the tub. I like to have the night's milk pretty forward in the morning, so that when the new milk is in, the whole may be sour enough, or nearly so, for my purpose. Of course, when I say 'sour,' I don't mean that it would be sour enough for you to taste or smell it, but we cannot make fine cheese out of very sweet milk. When I get it just as I want it, the cheese is better than when it is either short of or beyond that point. That is all I know about it, but that is experience." Of fermentation, its forms and causes, the good woman knows nothing, and cares as little. Moreover, she is pushing on with her work, and we must follow, for there is no time for discussing such a subject on the way. The cream is skimmed but to be warmed and returned to the tub by-and-by, this preparation enabling it to be more intimately mixed with the milk than would otherwise have been possible.

On the window-sill rests the hopper of a tin shute, reaching to the tub, and into that hopper the farmer and his milkers are pouring the contents of their pails at frequent intervals, and without entering the dairy. Dirt kept out and time saved. As the milk falls from the shute it passes through a fine strainer hooked to the side of the tub, and occasional fragments of straw or hair are separated from it. Some of the morning's milk is run into a deep vessel having two ring handles on its top edge. This is the "warmer," and it is now plunged in the open copper-boiler in the shed and heated in order to raise the temperature of that which is in the tub to 80 degrees Fahr., the point desired. A little mental arithmetic is necessary to determine the quantity which must be so heated, and the temperature to which it must be brought; the warm morning's milk, and the cream, also, to be heated, have to be taken into account, and the whole is done silently while the hands of the mistress are fully employed. In colder weather the temperature required would be higher, ranging up to 85 degrees Fahr. when necessary.

We wonder why a steam or water-heating tub is not used, and in return are assured that the simpler vessel is the better. There is a strong conviction with our friend that the milk—or whey, in contact with the tub—must be over-heated in such cases, and it is certain that the curd in time of scalding must "clot." We give our assurances to the contrary, and point out that milk just removed from the boiler was subjected to the same treatment without harm. Our experience has been entirely in favor of the other plan, and we demonstrate by subtle logic that no Cheddar principle is involved. All in vain. By-and-by the secret leaks out. A hot-water apparatus was formerly used and did not answer well. Whether the maker or the user of that discarded appliance was most to blame we could not be sure—perhaps both were in fault. "Other people fell into the same snare," we are told, "and returned to the old way." Very likely, but we are not convinced, and seeing no probability of convincing our opponent, we turn to the work again.

The milk is scarcely ripe enough, and some of the previous day's whey is added. The quantity is guessed at, with the present conditions and future probabilities in view certainly, but guessed after all. No test save smell; experience has taught the rest. The only real safeguard is the care taken with the milk up to manufacture, and not unfrequently, we learn, the best calculation is out. "I wish somebody would get up an instrument which would show the state of the milk, as the thermometer does the heat." We could suggest a way out of that difficulty, but have no means of demonstration at hand, and our hostess is skeptical. No color is used just now, the natural tint is sufficient. Late in the Fall the annato jar will be brought out. The practice is not well liked, "but then, you know, folk think cheese is poor if it is pale, and we must humor them." The rennet is the old-fashioned steep of vells in brine, with slices of lemon floating in it. By-and-by, when other people's experience has proved that no harm will ensue, the modern preparations will save the trouble of making the "steep," no pleasant task. Enough rennet is used to "bring" the curd in an hour, and this, well mixed in with some after stirring to keep the cream "down," the tub is lightly covered and left for a time. As the hour approaches completion, the cloth is lifted and the curd tried with the finger. When it splits cleanly and feels firm enough, it is divided into blocks of about six inches square by tinned knife. Then comes a long-handed skimmer, with which the blocks are turned over, and those in the lower part of the tub brought to the surface, splitting as they are moved into smaller blocks. After two or three turns round the tub the curd is reduced to pieces of two inches or three inches across, and then the "breaker" comes into requisition. This implement consists of a long bent rod of ash, with a rack at one end formed by two short pieces of wood crossed by round brass rods passing through these and the handle at a distance of 1½ inch apart. The curd coming into contact with the rods of wood and brass, as breaking proceeds, splits into smaller pieces. This idea of splitting is kept up, and we are assured that this is the true Cheddar method of dividing the curd. Other people have taken to breakers having cutting blades, but the instrument used here has all its parts rounded, and is evidently well calculated to effect the purpose in view. It is very delicately handled and the results are altogether pleasing, but we can understand what mischief it might easily do in careless or inexperienced hands. Gradually the speed increases as the lumps of curd increase in hardness, and when they have been brought to the size of large peas they are allowed to sink, and enough whey is bailed out to fill the warmer, which is then placed in the boiler. A second warmer is filled to follow it, and a further quantity of whey is removed until the curd has but little more than enough to float it. Then stirring is resumed. When the whey in the boiler is warm enough (not above 130 degrees Fahr.), it is returned to the tub, the stirring being briskly kept up to prevent clotting, and if this first lot is insufficient to raise the whole to 90 degrees Fahr., the contents of the second warmer are heated and similarly returned to the tub. In 15 to 20 minutes a second "scalding" takes place, raising the whole eight to 10 degrees more, according to the temperature of the air. More stirring follows, until Mrs. H——, after having several times squeezed a handful of curd and rubbed it abroad between her finger and thumb, assures us that it is firm enough, and finally removes the breaker. Half an hour later the whey is removed, the main part by a syphon, the remainder by a tap, and great care is taken to avoid a disturbance of the curd until this is completed. Then comes the piling and, excepting in really warm weather, the covering of the curd to preserve warmth. Later it is cut into three or four large blocks, turned and again piled,

this time in the wooden cooler, and, finally, when ripe enough, as evidenced by its acid smell and the beginning of a flakiness in tearing, it is torn abroad into pieces of three or four inches thickness, and spread abroad to cool and dry. It is turned once at this stage, and when dry enough ground in a mill, which consists of a rack of square bars, through which the curd is forced by square pegs, fixed in a cylinder, which fits in the frame and is turned by a crank. Seldom is any woman called upon to do harder work than to grind curd with such a machine; but it is in general use in the western English dairies, and, so far as the division of the curd is concerned, answers its purpose. Mrs. H. weighs salt (finely crushed) at the rate of one pound to every 56 pounds of curd, distributes it evenly over the mass, and with bare arms turns the whole several times, thus mixing thoroughly. Whether it will be immediately put into press or not will depend upon its temperature; if more than 70 degrees Fahrenheit, it will be still further exposed, even waiting the cooler night hours if necessary, but whenever ready in this respect it will be put into molds (commonly called "vats" by the farm-cheesemakers) lined with strainer cloth, and these into the lever presses. At first the pressure is light—from five hundredweight to 10 hundredweight, according to the size of the cheese—but after the re-clothing to-morrow morning it will be increased. The help of one of the men is properly called in to lift about these cheeses, which, with the vats containing them, will weigh from 100 pounds to 140 pounds each. When the last cheese is in press, and the servant is cleaning up the dairy, the worthy farmer enters, and after a chat about what we have seen, proposes to visit the cheese-rooms. "I don't allow many people up there," he assures us, "but if you will be good enough to keep the fact a secret, I will even let you taste our wares." Taking a cheese-iron from its peg he leads the way. We find the shelves nearly full of cheeses of various ages, from the green of a few days to the ripe of as many months. They are turned at first daily, later every alternate day. All cased in heavy-laced bands, upright, and of excellent proportions, neither dumps nor chimney pots, they are creditable to all concerned in their production. As the farmer draws a plug from one of the ripest, we observe solidity, closeness of texture, and even color. Crushing a fragment between finger and thumb, we find fatness and mellowness, and the odor and flavor are everything we could desire. It is indeed a treat. But what of the farmer's secret?

Here, then, is the history of a Cheddar cheese. But, lest we should deceive ourselves and our friends, the good folks hasten to assure us that no description such as we have penned can suffice to guide an experimenter to success. "Why," say they, "you have not told all that may be told, and there is very much that cannot be described at all," and we are convinced that this is true. One thing which we have learned we must not omit to mention. Our friends believe that whatever the pastures may have to do with the business, the method followed, and the skill and care exercised, have a much larger share in determining the character of the cheese. We tell them that Archdeacon Denison claims the Cheddar for Somerset only. The farmer is proud of his County, but he smiles quietly and replies, "That won't hold water. I have seen very respectable Cheddars from Scotland in the shows, and, on the other hand, some of the worst cheeses of the sort I have ever seen were made in Somerset, and not far from Brent, Knoll. There is something in the soil and grasses, without doubt, but my wife makes the cheese. If all depends on the land, why cannot my neighbors equal my success? They have just as good land, but they will never make fine cheese until they gain the same knowledge and skill and exercise the same care in their work." Our account of the making of Cheddar cheese is, doubtless, defective, and at best shows only the practice in one of the old-fashioned dairies. We have neither the time nor the space to fully describe the system and the various applications of its principles, but if the last lesson we learnt from our farmer friend be implanted in the minds of our readers, and they also seek for knowledge and apply it wisely, the harvest will pay for seed and tillage.—*Farmers' Magazine, London, England.*

CHEAP LANDS.

Maryland, Virginia, and the District of Columbia Offer Attractions for the Settler.

No portion of the United States presents greater attractions for cheap, productive farms and pleasant homes, nor more advantageous opportunities for a profitable, mixed system of agriculture than the highly-favored section of country around Washington. Contiguous to, and easily accessible from, the National Capital, and running with the Potomac, its western boundary, some 104 miles to Point Lookout at its mouth, where that river empties into the Chesapeake Bay; thence with the bay, as its eastern boundary, about 100 miles north to Baltimore, the commercial metropolis of Maryland, it makes in outline a triangular peninsula of the sides named, and about 40 miles wide at its base. Three great cities make the corners of this triangle—Washington, on the northwest, at the head of navigation on the Potomac, with a population now exceeding 250,000; Baltimore, at the northeastern corner, with nearly 500,000 souls, and Norfolk, with 40,000 people, practically at the southern apex, and near the ocean.

Washington is evidently destined to become the most magnificent Capital, as it is already well-nigh the most beautiful residence-city, of the world, whilst the other two are progressive commercial centers, having railway and water communication with all parts of the Union, and numerous steamship lines to foreign countries.

The peninsula formed by the noble Potomac and that great inland sea, the Chesapeake Bay, is cut again into two unequal portions by the broad and picturesque Patuxent, penetrating far inland, and navigable for 40 miles from its mouth. Thus situated, and surrounded by "water courses of the grandest proportions," with numerous attractive rivers, bays, and creeks extending far into the interior of the land, no portion of the territory is remote from steamboat navigation. Yet its advantages are unknown and its resources undeveloped. Here is a veritable garden spot, ready to the hand of the thrifty cultivator, the careful stock-raiser, and the enterprising settler.

The topography of the peninsula is characterized by broad level terraces, very fertile and of considerable area, bordering its water-courses, whilst from these, as one advances inland, the lands become more rolling, and are elevated into a ridge of some 200 or 300 feet above the tide. The soil is of diverse character, interchanging from a dark, rich, friable loam along the river terraces to sandy loams and stiff clays, adapted to the varied crops of a diversified husbandry.

Here may be cultivated with success all the products of temperate regions, and some flourish which border on the semi-tropic in their nature, so modified is the climate by the great surrounding bodies of deep water. Wheat, corn, rye, oats, and the grasses flourish; tobacco is a staple, and cotton has been grown; whilst for the raising of fruits and early vegetables it offers unexcelled opportunities. It is the natural home of the peach and the grape, and it is well-known that some of the best types and varieties of the apple and pear had their origin on the shores of the Potomac. The apricot thrives with the nectarine and the fig; whilst, of nut-bearing trees, the English walnut, the pecan, and the almond are to be found in many gardens. Peach culture is pursued with generous returns, and of the grape it has been said: "All the more delicate varieties grow here to perfection, including some which have not been found to thrive elsewhere, even in southern California."

The climate is temperate and healthful, with mild Winters and cool Summers, the wealth of proximate waters giving a moderate mean and equable temperature. Nowhere in the United States is it easier to live; nowhere is good living easier to be had. Its bays and rivers, creeks and inlets, abound with numerous varieties of the choicest fish; game birds and water-fowls are numerous; and its oyster fields are the most valuable of the world—productive, when properly cared for, of almost illimitable wealth, and even now giving employment and subsistence to tens of thousands of people.

These lands before the war were cultivated as large plantations of from 500 to 2,000 acres by slave labor. The issue of that contest not only destroyed the large property in slaves, but took away from the previously prosperous planter the only labor he had to cultivate his land. The laborer, free to go at his own will, repaired to the cities or found it easy to subsist without work from the almost fabulous riches of the water; and the landholder, impoverished by the loss of what was his working capital, baffled and discouraged by the enforced change of system, yielded to the pressure of events and gave up. As a consequence, these once-productive lands declined in price to one-fourth or less of their former value. Good lands may be bought for from $5 to $30 per acre, dependent upon location and improvements; and run-down farms, but susceptible of easy and inexpensive melioration, at such low figures as to rival in cheapness the railroad and wild lands of the West. And these within reach of all the agencies of civilization; with schools and churches, postoffices, steamboat routes, and railways near at hand, and practically under the very shadow of the Capital of the grandest and most progressive Nation of the Earth!

Nowhere in the country are such chances offered; nowhere are circumstances so favorable. Here soil and climate, situation and topography, crops and markets are all that can be desired for pleasant homes, productive farms, prospering communities. Mr. George Alfred Townsend, the correspondent in Washington of the Cincinnati *Enquirer*, wrote some time since, with sound logic, and the voice of prophecy: "I sometimes think that in 30 years there will be a million of people in and about Washington City, and that here will be the second or third city of the whole land. Analogy might teach that this will be the case, for the Potomac is far more consequential than the Thames; and the Chesapeake Bay, and the pathways of our coastwise commerce outside of it, are quite as important as the English Channel, the Straights of Dover, and the North Sea. It was the opinion of De Witt Clinton that the Chesapeake would be the great central water of the United States, its river sources lying near Niagara and Lake Ontario, and along the base of the Alleghany Mountains. All the rivers of England united have not the mileage and the channel room of the navigable waters of the Chesapeake. The cities of the Chesapeake have an united population of about 1,000,000 people, and the day is not very distant, perhaps, when the Delaware Bay and the Chesapeake will be continuous waters by canal intercourse, and when the middle Chesapeake will have its water pathway to the open Atlantic opposite the city of Baltimore."

To provide the future swelling population of this teeming section, here so graphically foretold, with the fruits of the earth, with the every product of the farm, the flock, and the herd, the lands here under notice must become the natural, logical, and most convenient sources of supply, offering to prudent and industrious agriculturists opportunities unequaled, in our belief, by those of any other portion of this goodly land.

To this subject we shall probably recur in a future issue, with some details bearing upon its importance and timeliness.

A growing industry in Washington State is that of the manufacture of cedar shingles. There are at the present time 25 mills in operation in Whatcom County, with a daily output of 2,000,000 shingles. An immense forest of giant cedar furnishes material for these mills, and by the use of the latest styles of machinery a high-class article is manufactured.

JARVIS MURRAY'S CAMPAIGN.

"Was Ever Woman in this Humor Wooed?"

BY WILLIAM J. HENDERSON.

SOME people would have said it was Florence Craven's own fault that she had lost her faith in man. Perhaps some people would have been right, and perhaps they would not. However, that has nothing to do with this story. The fact is what concerns us, and the fact is that Florence Craven did not believe in men. She did not believe much in women, either, but that also has nothing to do with this story. When Florence was 18 years old she had ideals. Every woman has ideals when she is young, just as children have mumps. The girls usually get over their ideals just as successfully as children do over the mumps, and then they settle down to a substantial basis of fact and find that, after all, the world as it is is a very good place—quite as good as the world of imagination.

That is what happens to a girl who has the ordinary run of ideals. These usually consist of a man who is a combination of Richard Cœur de Lion, Adonis, and the Angel Gabriel. That is the kind of ideal the average young girl sets up for herself. It does not occur to her at first that in order to be fit for the society of such a man she herself ought to be a combination of Joan of Arc, Venus, and Amelia Sedley. By and by she finds out that women are not built on that scale, and then she concludes that man may be a little lower than the angels and still do. Florence Craven, however, did not begin life with such a tremendous demand on human nature. Her idea of a man was not that he should be like Virgil's Dame Rumor, with his feet on the earth and his sublime head among the stars. All she asked was that a man should be tall, handsome, strong, kind of temper, frank, patient, humble, forgiving, earnest, sincere, affectionate, industrious, clever with his hands, intellectual, and passionately in love with her. It was not much for a young girl to ask, and so Florence demanded it with all her soul and with all her strength. And the first thing she knew the man arrived.

He had the whole of the above catalog of qualities except one. He was not in love with Florence. That, however, did not discourage her. She set out to make him love her. It was at a Summer resort that she met him, and at first he regarded her sprightly allurements with a sort of patronizing good nature, which stirred Florence's spirits to their depths. She vowed with a deep determination that she would bring him to her feet. Several times he seemed to be on the point of saying something very earnest to her, and then the amused look would come back into his eyes and he would say something else. This happened so often that Florence became fiercely hungry for that earnest utterance which always refused to come. One night she even went up to her room and wept bitter tears of vexation, of course, because he would not say it. The next day she fished more vigorously. They walked, danced, rode together. The gossips of the hotel married them regularly every day, and still he did not say it. And Florence wished more than ever to hear him say it.

Finally the end of the season came. The September breezes whispered around the corners of the hotel and the September stars looked down on piles of trunks ready to be taken away the next morning. That night he spoke. He said he had been trying to tell her something all Summer, but his courage had failed him every time. He felt that he had not been quite right in keeping it to himself so long, but she had made his Summer so pleasant that he had really been unable before that minute to tell her that he was going to be married that Winter. His sweetheart was in Europe and would be home in about two weeks.

And that was the earnest remark of the man who was tall, handsome, strong, kind of temper, et cetera.

Florence took it bravely as far as outward appearances went. She laughed in his face and told him that she had known it all along. Then she wished him joy and ran upstairs. In the inviolate secrecy of her own room she fell flat on her face and staid there for two hours. At the end of that time she arose, looked at herself in the mirror, and smiled a miserable smile. At that moment her ideals went out of the window and were blown out to sea by the west wind. The next day Florence Craven was a manhater and a flirt of the most desperate character. For two years she cut a swath. Her change of heart was most sincere. She simply despised men. She took pleasure in transfixing them with the arrows of love and seeing them writhe. She had no more pity than a seal hunter, and she was as devoid of sentiment as Butler's "Analogy." She never made the slightest pretense. She treated all men with sarcastic contempt, and they seemed to like it. She counted her victims by the score. She broke up engagements by the dozen. She made regiments of girls jealous. She played Venus Victrix to perfection, and had all the mothers in society wild with a desire to cast her into the bottomless pit.

All except one. Mrs. Chasby Soden had a daughter who didn't go off. She hung fire dreadfully. The only man who had ever shown a disposition to gather her to himself had been switched off by the insatiable Florence Craven, who wrung his heart dry and then sent him packing. Then Mrs. Chasby Soden rose up and said:

"That Craven girl has got to be married."

The only question was who was to marry her? Mrs. Chasby Soden studied that problem long and carefully, and finally she came to the conclusion that she knew the man. Then she sat down to study out a plan by which he could be led to devote himself to Florence and to conquer her. She spent a whole morning in deep thought. At luncheon she appeared with a severe headache and a written letter.

"If that does not bring him," she said to herself, "I must simply give it up."

It did bring him. He was Jarvis Murray, Mrs. Chasby Soden's nephew, the son of her oldest brother, now dead. Jarvis Murray was 30 years old, and not pretty to look at. He had a knife scar just above the bridge of his nose, and the rest of his face was corrugated with smallpox marks. He was not tall, but his deep chest and long arms indicated strength. He was not especially bright or cheerful in conversation, having been close enough to death on several occasions to make him rather serious. Jarvis Murray had begun life as a naval cadet. He had been shipwrecked once and had two desperate fights with pirates. He got that cut over the bridge of his nose in one of them. Then he resigned from the navy to accept the command of a merchant vessel. A collision, fire, and five days on a raft finished his career there, though he was honorably acquitted of all blame. He decided that dry land would suit him thereafter. He secured a position with an electric company, and was now in a fair way to become a millionaire. But he was not an attractive man. He knew it, too, and as a rule steered clear of the fair sex. But Mrs. Chasby Soden succeeded in setting him after Florence, and he opened up a campaign that for variety and movement has seldom been equaled in the history of love.

It began with some masterly inactivity. The first thing Jarvis Murray did was nothing, and he did it well. He was introduced to Florence, looked at her critically, and then walked away. That made Florence angry, and filled her with a deep determination to make him notice her—and to his sorrow, of course.

"Excellent," said Mrs. Chasby Soden; "I should say that the first skirmish is decidedly in your favor."

"I don't like it," said Jarvis Murray, reflectively. "She is as beautiful and bewitching as you painted her, and more so. I'd rather lie right down at her feet and surrender."

"And be laughed at for your pains? No, my dear boy, do just as I tell you, and the most captivating of girls is yours. Watch her for a day or two, and you'll agree with me that my plan is the only one that can succeed."

Jarvis watched her. He saw her deliberately draw young Forrest Burney into a proposal and then treat him with a measureless contempt that sent the young fellow away heartbroken. If Jarvis had not been let into the secret of Florence's lack of faith in men he would have called her heartless. As it was, he understood that her heart was exceedingly active and was feeding on its own fires. He decided that Mrs. Soden's plan of campaign was a wise one.

"Set a thief to catch a thief," he mused. "It isn't fair. Mrs. Chasby Soden is an old campaigner. She's up to every move on the board. Pity that daughter of hers, my estimable cousin, isn't a man. The mater would have had her married long ago. But the Craven girl has got the whole field to herself, and now that we're alone, Jarvis, we may as well admit that she deserves it. She's the first girl I've ever seen that I'd like to own. And I'm going to do it."

The next day Jarvis Murray treated Florence Craven with deliberate indifference all day. He took the trouble to keep within sound of her voice and sight of her eyes, so as to let her see that he was indifferent. She tried several times to draw him into conversation, but he answered in monosyllables and then turned to speak to another girl. That night one of the full-dress hops took place. Right in the middle of it Jarvis Murray shouldered his way through the crowd of moths around Florence and said:

"The next is our waltz, I believe."

You can't put the assurance of his manner on paper.

"I think not," she said.

"You are mistaken," he replied, lifting her dance card. The dance was not taken. He calmly wrote his name, and showed it to her. "You see, it is my dance."

At that moment the music began, and before Florence could recover her breath, he had her floating over the floor.

"Mr. Murray," she said angrily, "your impudence"——

"My what?" he asked, looking intently into her eyes.

He knew how to look very hard. He had once looked a mutiny out of countenance.

"Your impudence," she began again, but he interrupted her.

"A man would dare anything for you," he said. Her face flushed and her eyes sparkled. Jarvis Murray waltzed like a feather-weight angel. He did not say another word to her till the end of the dance. Then he said:

"Have you another dance left?"

She had. She had been saving it for a purpose; not this purpose, but she thought now she would let the other one go. Do you know what Jarvis did? He put his name down for that dance and went up stairs to bed. She did not see

him till the next day. She was weak enough to take him to task for not appearing to claim his dance. He told her he was sorry she had missed him, and assured her it should never occur again. That made her so angry she would not speak to him again. Then Jarvis Murray turned his attention to making himself agreeable to the ladies. He knew how to do it, too. He had two dozen ideas in as many seconds, and everyone of his ideas was fruitful in pleasure to the women. All sought Florence, of course. She wouldn't speak to him, so she was left out of his plans. She sat around the hotel the all afternoon with three or four tall, handsome men, who made love to her to the best of their ability, while the other girls went out sailing with Murray and had a glorious time. Somehow or other her favorite sport palled on her that afternoon, and, of course, she blamed it all on Murray. He met her face to face in the corridor as she was going to her room to dress for dinner. She was going to pass him in dignified silence, but he stopped and held out his hand.

"Won't you forgive me?" he said, looking hard at her.

When he looked like that, you would have thought that his soul was leaking out of his eyes.

"Since you are so humble," she said, "I will; but I think you were very rude."

"So do I," he said, touching his lips to the tips of her fingers with a manner almost reverential.

He passed on, leaving her flustered and elated. The man had acted as if he thought her a female deity. After that he went on all the evening making things pleasant for all the other girls and leaving her out. It was enough to exasperate a saint. Florence was not a saint, and when she retired to her room for the night she was about as thoroughly vexed a woman as ever lived. She actually broke down and had a good old-fashioned cry.

"I'll fix him," she said. "I'll not allow him to treat me in that style. The first attempt he makes at impudence to-morrow ends our acquaintance."

But on the morrow he was not impudent. That was because he had carefully observed her face when she left the drawing-room the previous night. No, he was anything but impudent. He devoted himself to her for the whole day. He never left her side. Bathing and sailing and driving—he was with her in them all, and no woman could have asked for more respectful, yet tender, attention.

"Vanquished at last!" exclaimed Florence triumphantly when she had gained the seclusion of her apartment that night.

But he refused to stay vanquished. The next day he devoted himself in precisely the same manner to Mrs. Chasby Soden's hang-fire daughter. The finest expert from a mediæval court of love couldn't have discovered a shade of difference in the devotion of this day and that of the previous one. That made Florence wild; but what could she do? That is not the sort of thing that a girl can notice. So she had to swallow her rage and content herself with flirting more desperately than ever with a towhaired gentleman who was possessed of a T-cart and a hyphened name. She overdid it, however. She had one or two outbursts of temper which frightened the young man, and he ran away. About that time she overheard Mrs. Chasby Soden saying to one of the old Noms on the veranda:

"Oh, yes, Jarvis always had a penchant for his cousin. I shouldn't be surprised if the unexpected happened in that quarter."

"So," thought Florence, "that old bundle of gossip thinks he's going to marry her Nellie. Well, rather than that I'd marry him myself, and I hate him."

You see, Jarvis's campaign was getting on finely. A man has got to make a pretty serious impression on a girl when he gets her to hate him. I've always been of the opinion that between a young man and a girl a good, hot, palpitating hatred can give pity three to one. Jarvis had a sneaking notion that she hated him, and he liked it. He wished she would say she hated him. She did, too, the very next day. It came about in a very simple way. They were all down on the beach. Jarvis insisted that the sand was damp and that Florence must not sit on it. You see, it was one of his days for being attentive to her. So he found a short piece of log and a short board. He set the log up on end and laid the board on it. There was room enough for two, so he sat down beside her. Five minutes later he sprang up, apparently oblivious of Florence's existence, to speak to a simpering blonde nonenity. When he sprang up, Florence, of course, went over flat on the sand in about as ridiculous a way as you can perceive. She was so angry she could hardly speak. She would not allow Jarvis to assist her to arise. He apologized very properly, but not very enthusiastically.

"Don't mention it," she said; and then added in an aside, "I hate you!"

Murray really appeared to turn pale.

"Do you mean that?" he said in a low tone, looking at her with the soul-leaking look.

"Yes, I do," she answered resolutely.

That man's eyes actually filled with tears. He gave her one heartbroken glance; then walked slowly away, and—sat down beside another girl.

While he was looking into her eyes, Florence felt that she could forgive him anything. When he sat down beside the other girl, she wished she could run a knife through both of them. What was a girl to do with such a man? Florence did not know what to make of him. He troubled her mightily. He kept her in a perpetual state of change, from storm to sunshine and back again, like a hot August day with a southwest wind.

"How do you like it?" said Mrs. Chasby Soden to Jarvis Murray.

"I like it and I don't like it. I feel like a case-hardened brute when I treat her so badly. But it's going to work."

"And you'll stick to it?"

"Yes," he said grimly; "I love her."

Mrs. Chasby Soden went off into a corner and patted herself on the back. When she saw her daughter she astonished that damp-powder young lady with a spontaneous kiss.

That night Florence Craven made a discovery. She discovered that she was anxious. She called it "interested." But she was anxious to know what Murray meant. Up to the present time she had been unable to tell. The man was a puzzle to her, and she wished to solve him. The question was, how was it to be done? Sometimes she thought he loved her. When he looked at her with the soul-leaking look she could have sworn it. But she remembered that she had no faith in men. So why should she believe in him? But still she'd like to know. She decided that the only plan was to do something desperate.

The next day she went in bathing just as everyone else was going out. Murray stood on the end of the pier and watched her dive off. She was an expert swimmer. She swam straight out from the shore, and when she was 40 or 50 yards from the end of the pier turned over on her back and floated like a nymph. Murray started to walk away. Then she threw up her arms, uttered a scream, and went down. Of course Murray bit. He wasn't going to stand by and see her drown. He must have cleared 20 feet in his flying dive off the pier. He was at her side in a few seconds.

"I'm all right now," she said, panting. "It was just a momentary cramp."

"You're not all right, and you're coming ashore with me. Float."

She floated, and with one arm under her, he swam toward the pier with her.

"THAT CRAVEN GIRL HAS GOT TO BE MARRIED."

"What made you jump in after me?" she said.

"Do you think I'd see anything happen to you while the breath of life was in my nostrils?"

A great thrill of joy swept through Florence. It was the first time a great thrill of joy had been caused in her by a man since the era of the tall, handsome, strong, et cetera. She did not like it, on second thoughts. It frightened her. She escaped from him as soon as possible when she reached the shore. That night Mrs. Chasby Soden played her right bower. She watched till she saw Florence sitting on the veranda just outside a window. Then she went up to one of the old Noms, who was sitting just inside the same window, and said:

"Do you know, I really believe that Jarvis has just proposed to Nellie? I saw them in a corner and he was holding her hand and talking passionately to her. I stole away, and they didn't see me."

Florence did not know just how she got out of her chair, but she was some distance away from that window when she recovered her self-control. Then she stood still and clasped her hands. Great Heaven! Why did she feel that way? What difference did it make to her whether Jarvis Murray proposed to Nellie Soden or not? At that moment the miscreant came to her.

"I've been looking for you," he said.

"I don't believe you," she answered.

He calmly took possession of her arm and walked away with it. She tried to free herself.

"Don't be ridiculous," he said.

"I won't stand it," she exclaimed. "You are insufferably impudent. You treat me as if I were your property."

"After pulling you out of the water I feel a sort of personal interest in you."

"You didn't pull me out of the water," she answered, losing her mental balance. "There was not anything the matter with me at all."

He stopped short and looked her in the eyes.

"Honor bright?"

"Honor fiddlesticks!"

"And you did that just to see whether I would try to save you?"

"Yes, I—no, what nonsense! I did it just—just—for fun."

He let go of her arm and took both her hands.

"Florence, will you be my wife?"

"How dare you, sir! How many girls do you propose to in one evening?"

"Someone has been slandering me. I have never proposed to any other woman and I never shall."

Oh, wasn't she glad to hear that! And she believed it without a moment's hesitation.

"You haven't answered my question," he said, "will you be my wife?"

"What for?"

"Because I love you."

"No!"

That was her little triumph. He had made her feel miserable so often, and now she had her chance to be even with him. So she said "No," and then waited. And what do you think he did? Dropped her hands and walked away without another word.

The next day he met her and treated her as if no word of love had ever passed between them. It was simply incomprehensible. Any other man would have gone away, or hung off in the distance and looked miserable, or proposed again; but this one did none of these things, and he never left her side. He did not sigh. He did not look miserable. He looked rather contented than otherwise. And he was simply knightly in his attentions. He not only fathomed her thoughts and executed her commands before she uttered them, but he frequently knew just what she wished when she was not quite sure of it herself. The result was inevitable. There never was a girl who could be comfortable in the presence of a newly-rejected suitor, and the peculiar conduct of this one was enough to set a girl mad. Florence was so upset by it that she tried to drive him away. But he would not be driven. He staid. And before night she actually felt ashamed of herself. He divined that, too, and told Mrs. Chasby Soden about it. Again she went off into a corner and patted herself on the back.

Jarvis Murray kept it up for a week. He was gentle, kind, tender, and manly in his treatment of Florence. He neither said or did any more rude things. He enfolded her in his protection. He perpetually fanned her nostrils with the incense of his devotion. But of love he spoke no word and made no sign. At the end of the week he told her he was going away the next day. He regretted that he could not remain longer, as it gave him great pleasure to think that his humble efforts had contributed to her enjoyment, and he flattered himself that they had so contributed. Was it not so?

Yes, that was so.

Well, then, he said, he should feel that his Summer had been put to the very highest use. Good-by. He hoped she would spare him a kindly remembrance once in a while when she had nothing better to occupy her thoughts. At that she gave a little sob.

"Oh!" she said, "I've been so wicked!"

"Wicked!" he replied. "Not at all. You mean in regard to me, of course. Well, well, it certainly is not wicked for a woman to refuse to marry a man she does not love."

He made a sudden movement as if to leave her, the villain. She seized his hand convulsively.

"But," she cried, hysterically, "but—but I."——

Then he took her in his arms, and that evening Mrs. Chasby Soden kissed her daughter twice.—*New York Times.*

Guessing Characters.

A new way of entertaining guests was described by Mrs. Herrick in one of her articles, which may give an idea to some of THE AMERICAN FARMER readers. The hostess got a specimen of the handwriting of each of her guests and sent them to someone who deduces character from handwriting. This can easily be done in a city. The verdicts thus obtained were inclosed in envelops with the name of each person thus described, and these were bound and tied with ribbons and placed at the plates of the guests. The seals were not broken until dessert was served, and then each one read aloud what was contained in the one addressed to her, and great merriment was the result. "It is very curious" Mrs. Herrick says, "to see how accurately the peculiarities of the different individuals are given."

Sweet Corn.

Sweet corn has many uses besides fitness as a table delicacy. Animals like it much better than field corn, even as men and women do. Sweet corn will be useful to feed cows when the grass begins to fail in the late Summer, and will make milk and butter equal to that produced by June grass. It is also the next thing to milk for fattening young pigs. Chickens are very fond of it and do well on it. But it will not do for the silo.

Gentian Brandy.

The roots that have been collected are first subjected to thorough drying and then are chopped small with knives shaped like sabers. Then the whole mass is put into vats to ferment. These vats are closed vessels about six feet high. When the fermentation has continued sufficiently, the mass is put into retorts and subjected to the fire. What is first given off is "futter;" it looks like buttermilk, and contains little or no alcohol. This is again subjected to the fire, and the brandy that is so valued in the Alps flows from it.

The gentian spirit may be said to be the very elixir of life to the mountain folk. A glass of *enzeler*, half drank and half rubbed on the afflicted member, will cure rheumatism. There is no lozenge or emollient mixture ever made that is so good for a cough and sore lungs as gentian brandy. There is not a stimulant in exhaustion so efficacious as this same spirit. But then it must be taken with the implicit faith in its efficacy that is possessed by the Alpine peasant. He takes a nip of it in the morning to brace him for his day's work and a nip at night to recover his exhausted sinews. He takes it with his meals to assist in the digestion. He takes it when he has nothing to eat, that it may serve as food to him, meat as well as drink. He takes a nip to stir him up to make the first advances to his beloved, and a nip to raise his felicity to its acutest pitch when she has consented to be his. A glass of *enzeler* welcomes the advent of a child into the world and consoles the mourners in their bereavement.

The smell of gentian brandy is not pleasant, especially if new, but with age the spirit greatly improves, mellows, and loses its disagreeable aroma. Of all the kinds of gentian that are used for the manufacture of the spirit, the yellow gentian (*Gentiana lutea*) is the king. This gentian grows in moist, thin soil, and high up on the Alps. It reaches three or five feet in hight, with great strong stems, and the flowers, which are yellow, are produced in dense whorls on the upper part of the stem. The roots are far larger than those of the *Gentiana acaulis*. It has been so sought after that it is now becoming a rare plant. Next to the yellow gentian comes that with the large dark-blue bell; that which is called acaulis. The Germans call it thousand-gulden herb. Akin to this is the pannonian gentian, with its deep purple flowers and dark spots. Then the spotted gentian (*punctata*), and that which is without those blotches (*concolor*). The punctata is pale yellow, and grows about two feet high; the spots are purple.—*Cornhill Magazine.*

Plural of Tablespoonful.

My sympathies are altogether with the plural *tablespoonfuls*. I should opine that nobody has ever yet made the plural of *handful, handsful*, and, if so, why should *tablespoonful* follow a different rule? *Handfuls* is found five times in the A. V., as, *e. g.*, in Genesis xli., 47. In the case of *armsful*, instead of *armfuls*, ambiguity might even arise, for *two armfuls* might well be understood to mean as much as a person's two arms could hold, which would be the same as *one armfull* if this were understood, as it commonly is, to mean what can commonly be held in a person's two arms. The only plural given to *armful* in the N. E. D. is *armfuls*, and one of the two examples quoted is as old as 1579. The difficulty has arisen, I presume, from the fact that the *ful*—full, in these words, is commonly regarded as an adjective, and that adjectives do not take a plural. But an adjective when added to a substantive to form a compound word ceases to be an adjective, and the whole compound word becomes a substantive and, as such, has the right to take the plural affix at the end of it and not in the middle. Compound *meadow-sweet*, in which *sweet*, originally an adjective, has become part of a substantive, and so one says *meadow-sweets* and not *meadows-sweet*, which would mean something quite different.

The French are better off, inasmuch as they express the *ful* by the feminine termination *ee*, so that there is no compound word. Thus *cuiller, fourchette, maison*, make *cuilleree, fourchet(t)ee, maisonnee*. But this arrangement, by its very convenience, lands the French sometimes in difficulties. Thus *cuiller a cafe*, teaspoonful, because *coffee* is the French national beverage and tea is ours. *Teaspoonful* ought, therefore, logically to be (*cuiller a cafe*)—*ee;* but as this little algebraically-expressed addition sum cannot be carried out, they are obliged to content themselves with the awkward and illogical, but understandable, expression—*cuilleree a cafe.*—*Notes and Queries.*

Omnivorous China.

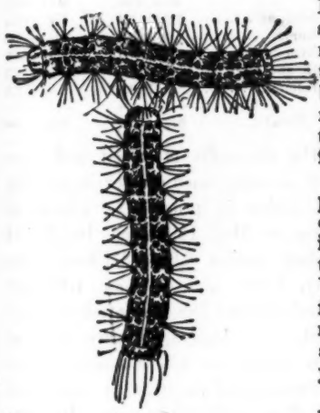
Dogs and cats are subject to the same process of absorption as dead horses, mules, and donkeys. We have been personally cognizant of two cases in which villagers cooked and ate dogs which had been purposely poisoned by strychnine to get rid of them. On one of these occasions someone was thoughtful enough to consult a foreigner as to the probable results; but as the animal was already in the pot, the convives could not make up their minds to forego the luxury of a feast, and no harm appeared to come of their indulgence.—*Chinese Characteristics, by Arthur H. Smith.*

A Hard-Hearted People.

Filial piety finds no place in Thibettian character. It is no uncommon thing for a son to turn his father, when too old to work, out of doors, and to leave him to perish in the cold. The superstition that the souls of the dead can, if they will, haunt the living, drives their hardened natures to gain by the exercise of cruelty the promise of the dying that they will not return to earth. As death approaches, the dying person is asked, "Will you come back or will you not?" If he replies that he will, they pull a leather bag over his head and smother him; if he says he will not, he is allowed to die in peace.—*The Edinburg Review.*

THE GYPSY MOTH.

The Great Crusade Against it Carried on in Massachusetts.



THE PEOPLE of Massachusetts in their strife with the Gypsy moth might have formulated a new theory concerning the end of the world, to the effect that everything would be eaten by slow degrees until nothing remained but the caterpillars themselves, and these finding nothing more to devour would finally die, leaving space depopulated.

It would certainly seem as if the little pests were getting the upper hand, and the question remaining was man or moth, when it became necessary for the Legislature to take in charge the work of eradicating them. Within the last two years it has appropriated, from time to time, sums which, added, equal nearly $100,000 for carrying on the work; and though the moth is subdued, it is not yet destroyed.

At first no one could identify this insect, which went eating its way through the gardens and orchards, and farmers supposed they were struggling with the ordinary American caterpillar. But after sage and learned professors of entomology had met, analyzed and consulted, they decided that it was *Ocneria dispar*, or Gypsy moth, and native of Europe. A number of the insects were brought to this country about 20 years ago by a Frenchman, who proposed to conduct some experiments by crossing them with silk worms. Unluckily some of them escaped and remained in the lowlands and swamps about the town of Medford for a dozen years or so, without attracting particular attention. They were first noticed in Medford, and increased so rapidly that the people became alarmed. They soon spread to other towns, and in the Spring of 1890 the Legislature organized a commission to take the matter in charge.

A number of inspectors were appointed, and each was given a squad of men. Thirty teams were employed at first, and the number was afterward doubled, each carrying a tank holding 150 gallons and a double pump, with two lines of hose. Thus equipped, the crusade moved forth.

They sprayed with Paris green from the time the creature hatched until it turned into a chrysalis. Then other chemicals had to be used which would kill by contact, as Paris green had no effect on these. Then came the moth stage, in which it remains but a very short time, and all the rest of the season was spent in destroying eggs.

Young men were employed from the Agricultural College, who were active and had the cause at heart. They succeeded in gathering, altogether, about eight carloads, measuring them by the quart. Nests were found everywhere, not only in trees and shrubbery, but under stone walls and fences, in attics and cellars, and even inside chimneys. When one thinks of examining every nook and cranny, fence, tree, and shrub in a territory, including about 30 towns, some idea can be formed of the magnitude of the undertaking. Besides, special inspectors and police were commissioned to examine all teams and goods passing from one point to another; for it was found that the spread of the insect could mostly be accounted for by transportation.

It must have seemed odd to be held up on the road by an officer of the law while he ascertained if you were concealing any smuggled caterpillars.

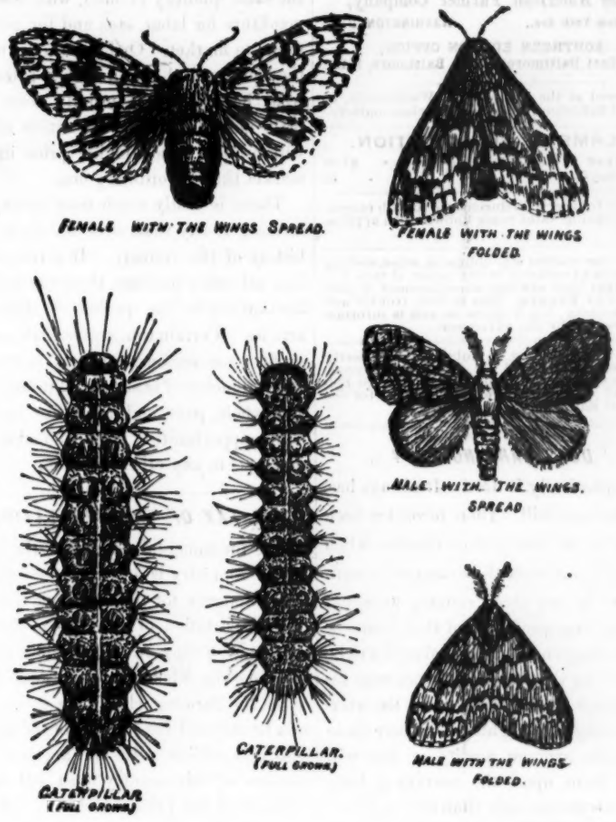
The caterpillar does not migrate, but only moves in quest of food, and the female moth has never been known to fly, so that their spreading can always be traced to some cause outside of themselves. Their greatest object in life is to eat, and they are not particular about their diet. Any kind of tree or plant is good enough; in fact, they can eat anything. They ate barberry bushes and apple trees, they ate pine and Norway spruce, and if extra hungry they ate grasses.

Every possible means was used for their extermination. Paris green was found most effective for spraying; then traps were laid by banding the trees. The caterpillars crowded under these and used them as hiding places, and were easily burned out and destroyed. The work of inspecting vehicles was found impracticable, and was continued only about two weeks. Over a hundred acres of woodland were burned, and everything upon it destroyed. Stone walls were sprayed with petroleum, and then fired.

Some reasons why it is so hard to exterminate are, that it destroys all vegetation as it goes, and does not, like most other insects, confine itself to a few plants. Then it feeds during a long season. The eggs hatch from April to the last of June, and the caterpillars feed through May, June, July, and August. If one crop be destroyed, another will follow, so the district must be gone over again and again. Their increase is enormous; the eggs are laid in sheltered places, and under favorable circumstances nearly always hatch. The young caterpillars, too, are very hardy, and a large proportion of them live to carry on the work of their predecessors.

In consequence of these facts, it requires all the patience, persistence, and zeal belonging to man, combined with all the funds which the State can spare, to carry on a successful war against the Gypsy moth.

The results of the discouraging and tiresome work are most favorable. Trees once bearing plentifully and afterward stripped by the moth have put forth again this season an abundant crop. The vast increase of the moth has been checked,


FEMALE WITH THE WINGS SPREAD.
FEMALE WITH THE WINGS FOLDED.
CATERPILLAR (FULL GROWN)
CATERPILLAR. (FULL GROWN.)
MALE WITH THE WINGS SPREAD
MALE WITH THE WINGS FOLDED.

and only about one-tenth as many egg-clusters were found in the Fall as were gathered the preceding Spring. The work of destroying them is still going on, and if, as some say, it is impossible to entirely exterminate them, they can at least be held in check, and threaten little danger to territory outside of the present infested district.

A Barmitzvah Speech.

Very pretty speeches are sometimes made by Jewish boys on becoming Barmitzvah. The Barmitzvah speech of a boy in a synagog in Paterson, N. J., ran thus: "My Dear Parents and Friends: To-day I have arrived at that important station of my life when, becoming Barmitzvah, 'a son of the commandment,' I take upon myself the obligations of the Mosaic law. To-day I proclaim with heart and soul in this holy place and in presence of this congregation the unity of God. 'Hear O Israel, the Lord is our God, the Lord is one.' To-day I feel happy to acknowledge myself as one of the community of Israel. To-day I turn over an entirely new leaf in the history of my life. But believe me that it is my earnest desire to remain always a faithful son of Israel, and that, as I enter to-day into the congregation of Abraham, Isaac, and Jacob, I will try to prove by my good deeds that I truly deserve to claim fellowship with the house of Israel. O dear parents, can I ever forget all you have done for me? May God bless you, my relatives and friends, and this entire congregation, now and forever. Amen."

Flax Growing.

Flax will grow anywhere that Spring wheat will, and a newly-broken prairie or other grass land is the most suitable for it. The land, however, must be thoroughly harrowed until it is fine and mellow. If the seed is free from weeds, the soil is not infested with weeds, and in choosing seed the cleanest only should be taken. If the seed is the object of the crop, one and a half bushels are sown to the acre, as a thin sowing encourages branching of the stems and an abundance of bearing side branches. The seed is sown at the same time as wheat is in the Spring, and it should be harrowed in or sown by the drill, as wheat is. If some seeds are left in the soil after harvesting, the plants thus grown are of no damage to future crops. Flax leaves the land quite mellow and well fitted for any following crop. It is exhaustive, and should not be grown consecutively for any length of time. The yield is from 15 to 25 bushels to the acre. The seed is thrashed out as wheat is.—*New York Times.*

THE AMERICAN FARMER.

"*O fortunatos nimium sua si bona norint agricolas.*"—VIRG.

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DOES FARMING PAY?

Emphatically it does. It always has, and it always will. There never has been a time in the history of civilization when at least a portion of those engaged in agriculture in any given country were not making large profits out of their business. There always has and there always will be a profit for the farmer who can raise his products a little cheaper than the average among his neighbors, or have them above the average quality, or who will place them upon the market a little more advantageously than his neighbors. This is the whole secret of money-making in any great occupation. Competition forces down the prices of all staple products to very near, if not actually below, the average cost of production. There are so many men in every trade, calling, or business who must follow it to simply live, that they force down its profits to the lowest possible living rates. They will take whatever they can get to keep soul and body together. As a rule, these are the unskilled, improvident producers, whose goods fill the markets and depress the prices, and yet are produced at needless excess of cost to themselves. This is not merely the case with farmers, but with every other business that men follow. In every calling known to man the failures, the stand-offs between success and failure, and the half-successes, greatly outnumber the positive successes. Taken by-and-large, the men who follow farming make a larger percentage of positive successes than those of any other business. That is, out of every 1,000 farmers there are more who escape absolute failure and who accumulate greater or less competencies than 1,000 lawyers, merchants, manufacturers, railroaders, etc.

The conditions of signal success in farming are the same as in other branches of business. The successful man is one who gets above the average in some way. If he raises common staple crops he manages to raise them more cheaply than his neighbors; he gets more from the same quantity of land, with less expenditure for labor, etc., and for getting them to market. Or he improves upon the quality, and gets a higher price for what he raises. It usually costs but little more to produce an article which will bring a much higher price in the market than an ordinary one.

There is really much more money in farming to-day than ever before in the history of the country. It is true that, like all other business, there are serious fluctuations in the profits of different articles. Certain things give little or no profit some seasons, but this is true of other branches of business. But farming, as a whole, pays, and there are just as many opportunities in it to make big strikes as in any other vocation.

THE TAX OF TRANSPORTATION.

The fundamental fallacy of the Free Trade sophistry is in making no allowance whatever for the enormous burden of transportation of products to distant markets. Owing to the inviolable laws of trade the whole of this burden falls upon the farming class. As steam has now brought all the farmers of the world into competition with one another, the farmers of this country must sell their products at the prices which those of the countries in which land and labor are cheapest bring in Liverpool, less the cost of transportation to that port. If, for example, wheat could be bought in India, Australia, or Russia for 30 cents a bushel, and carried to Liverpool for 20 cents, then all that American wheat would sell for would be as much less than 50 cents a bushel as it would cost to take the wheat from the American farm to the English market. This is so plain that it only requires a statement to be seen by anyone.

The carrier of the produce to market has the first mortgage on it all the time. He gets his money, whether anybody else does or not; he makes a profit, no matter how much the farmer may lose.

The farmer has to sell, no matter what the price, and regardless of whether he makes or loses; but the carrier will not carry unless he makes money by it. He has the farmer at his mercy, and demands his pound of flesh.

Free Traders continuously clamor that a free interchange of products gives all classes of producers the greatest amount of each other's products. This would be true if all the producers were close neighbors, and could exchange their products directly. That is the kind of free trade that we are strongly in favor of, and we would make the freest kind of trade among such neighbors as are within the boundaries of the United States. But the Free Traders strenuously ignore the great fact that when different kinds of producers are separted by great oceans, and live in different parts of the world, the carriers and go-betweens—who are not producers at all—are parasites who devour the profits of the agricultural producers, and keep them in poverty. The most intolerable tax that the farmers of this country have to endure is the cost of maintaining the great railroads and steamship lines, and the armies of middlemen who live and grow fat upon the tolls they collect on the produce which our farmers send to distant markets. Every mile that a bushel of grain or a pound of meat is carried away from the American farm on which it is raised is a direct diminution of the legitimate profits of the farmer who produced it. The farmer must not only bear the whole burden of sending his produce to his customers, but also of bringing back the goods he gets in exchange. It is the farmers of this country, and the farmers alone, who must pay every dollar of the expense of building the great railroads to the seaboard, and of running them; of constructing the splendid steamships, and of navigating them, and of the wealth accumulated by the hordes of middlemen who interpose between them and their customers.

The remedy is to have home customers, and have them as near home as possible.

OHIO has taken a long step ahead in the direction of honesty and proper business methods. The Attorney-General has rendered an opinion that the law requires the branding of all cheese made in the State, whether sold at home or abroad. Of course this is what honest cheese-makers want, and there has been a conference between the cheese-makers and the Dairy and Food Commissioner, at which it was decided that "the butter fats in Ohio full-cream cheese should be in the same ratio to Ohio standard milk that Minnesota and New York full-cream cheese bears to the milk produced in those States."

Hereafter, therefore, Ohio cheese will be branded according to the following schedule:

"Ohio Full Cream,	40 per cent.
"Ohio State,"	30 "
"Ohio Standard,"	16 "
"Ohio Skimmed," all below,	16 "

PROGRESSIVE cigar-makers are of the belief that the Sumatra fad has had its day, and that smokers are rapidly coming back to the idea that the domestic wrapper makes the better cigar. This is right. We can raise as good tobacco here as anywhere in the world.

OUR EXPORTS.

In spite of the great reductions in the value of the shipments of cotton and oil our exports in May footed up a much larger figure than for the same month of last year. The comparison of the principal items is as follows:

	May, 1892.	May, 1891.
Breadstuffs.....	$19,410,394	$12,330,231
Cotton.....	10,754,662	11,460,987
Provisions.....	11,099,977	7,410,469
Cattle and hogs.....	3,403,331	1,845,923
Petroleum.....	3,171,936	3,585,276
Total	$47,840,299	$36,632,886

The shipments of wheat and flour were not only much greater in quantity but higher in price. The exports of wheat for May, 1892, were 10,127,124 bushels, against 6,286,987 bushels for May, 1891; and of flour 1,163,341 barrels, against 799,497 barrels for May, 1891. The high speculative price of corn during the month interfered with its exports, and the quantity sent abroad fell off to 5,839,293 bushels. Rye also flattened out, but we sent out 1,211,674 bushels of oats.

Of cotton there was more than 11,000,000 pounds more sent out than in May, 1891. The quantity of oil exported was about the same as last year, but the price was much lower.

GROWERS of cigar tobacco have made a mistake this year in greatly increasing their acreage, but not paying sufficient attention to improving the quality. What the country wants most is not more cheap tobacco, but much more high-class and high-price leaf. Tobacco-growers should not extend their acreage, but raise finer tobacco on that already devoted to the crop. There is lots of money for the asking for the man who raises better tobacco than he has been growing; he does not hunt a buyer; buyers will hunt him. The tariff is strongly in his favor, and so is the condition of the foreign market. The Sumatra crop is very short this year, and prices for good wrappers are going up like a kite. Let tobacco-growers resolve next year to cut down their acreage fully one-third, but make the remaining two-thirds yield finer leaf than ever raised before, and they will swell their bank accounts most gratifyingly.

IT is estimated that this country loses over $700,000,000 a year by adulterated food. This is more of a burden upon it than several of the great European armies are upon their countries. Let Congress not fail to pass the Pure Food Bill before it adjourns.

THE House's Free Wool Bill still sleeps quietly in the Senate Committee room.

RICE IN LOUISIANA.

The rapid development of rice culture in Louisiana is one of the surprises of American agriculture. It has grown steadily and rapidly from the very first, until this year the planters are calculating on a crop of over 9,000,000 bushels, which is three times as much as the production of any year before the war, and twice as much as any since. The low price of cotton has turned the attention of many planters who never grew it before to rice, with the result of doubling the acreage devoted to it. Louisiana has an immense area suitable for rice culture, and the quality of that produced has no superior in the world.

Last year we imported 510,766,163 pounds, valued at $928,888. This would be a very snug little sum to put into the pockets of the Louisianians, and we hope that every dollar of it will eventually get there. The duty on rice is from eight to 12 cents per 100 pounds.

THE season is now far enough advanced to allow a pretty safe prophecy as to the crop yield. Taken in general, the production will be above the average, and but little below the magnificent fruitfulness of last year. There are many drawbacks to this gratifying statement. Late frosts, destructive storms, floods, and winds, have done their damage so effectually as to reduce the crops in some regions to but a fraction of what they should be. But the expectation now is that we shall have plenty of corn to sell and keep.

The crops in Europe are better than they were last year, but there will still be a great deficit there, which will require all our surplus grain at good prices.

AFTER a stubborn fight of more than half a century, the broad gage for railroads has finally been surrendered. This occurred several years ago in this country, but in England a number of leading roads have clung to the old 7-feet gage, which the great engineer, Brunel, advocated. The original standard gage adopted by Parliament was four feet eight and a half inches. This was Stephenson's idea, but Brunel's opposition secured a permission to roads to adopt any that they chose. The result was any number of different ones. After a long fight all the roads in Ireland adopted five feet eight and a half inches. The rest of the roads in the United Kingdom have now come to this, the last to give in being the Great Western Railway, which recently reduced its gage from seven feet to the standard in a single day, with a force of 5,000 men. The total cost of the change was $5,000,000.

perfectly simple, white, unglazed, and

The ne[illegible]ride, if in full dress, should wear FARMER will co[illegible]vail is a large square of usual value on "Root Pru[illegible] one corner under a

L. Brunk, Professor of Botany, [illegible]uld be Horticulture in the Maryland Agricultural College and Experiment Station. This describes a new method of the highest importance, and the value of which has been conclusively demonstrated by practical tests. THE AMERICAN FARMER will be the first to give this information to the farmers of the country.

"PROF." FRANK MELBOURNE, "the rain wizard," is working the farmers of western Nebraska and eastern Colorado in fine style. He makes contracts for producing rain at six cents an acre, and then makes his dates for showers correspond with those stated in the Weather Forecasts. He made a contract with the farmers of Logan, Phillips, and Sedgwick Counties, Colo., and Keith County, Neb., to wet down 8,000 square miles with a half-inch of rainfall inside of 72 hours. A rain came up which precipitated from .20 to 1.25 inches of rainfall over 17,000 square miles, and of course he reaped a pocketful of shekels. How dearly the American people love a humbug.

MINISTER LINCOLN has found it necessary to warn Americans not to send money to fellows in England who pretend to recover money and valuable estates for them. These swindlers get thousands of dollars every year out of credulous Americans. But the warning will do no more good than the constant exposures in the papers of the tricks of the green-goods swindlers. "A fool and his money are soon parted," and the fool will throw it away, no matter how impressively he has been warned.

IT IS just as necessary for a farmer to read the best books on his business, and to study the papers and periodicals devoted to it, as it is for the lawyer, doctor, merchant, or engineer to constantly read everything that relates to their callings, and keep pace with every step of progress. The farmer has even more complex subjects to deal with than they have, and he cannot hope to deal with them successfully without studying every phase of the matter as constantly and earnestly as they do.

GOV. MCKINLEY, of Ohio, says: "Farmers cannot expect any legislative body to pay any more attention to the needs of agriculture and the rights of farmers than they themselves give." In other words, if farmers want anything from our legislative bodies they must ask for it.

SOMETHING ABOUT FASHIONS.

For the Women Readers of "The American Farmer."

One of the fashions for Summer, which is very convenient, is the wearing of blouse waists, which are allowed upon all occasions except those of strict ceremony, where full dress is necessary. They are often made so prettily and of such exquisite this materials as to be very jaunty. One of the best things for use in this way, unless answer the pur[illegible]ired. A neat way of making these is to tuck the silk from throat vast number of tons [illegible] hand-run plaits. Draw these closely together at the throat straw are suffered to rot unused stretch out smoothly over the bust. Have loose ground every year. There is enough and either a standing collar of the folded silk this to furnish all the linen our people buy.

THE House of Representatives has wisely forborne any meddling with the Sugar Bounty, against which there was such an outcry when the present House was elected.

COMPLIMENTS.

"Must Keep Files of It."

The fact is THE AMERICAN FARMER has become so interesting that we must keep files of it. Let the good work go on.—W. S. POWELL & Co., Baltimore, Md.

"Well Pleased With It."

I have received THE AMERICAN FARMER, and am very well pleased with it.—J. M. STRATTON, Dorsey, Neb.

"No Paper Like It."

I cannot tell you how much I like THE AMERICAN FARMER. There is no paper like it in the whole country.—E. B. HOLZAPFEL, Augusta, Ga.

"Worth Ten Times the Price."

The temperature and rainfall charts which you publish are simply invaluable to all wide-awake farmers. They are worth 10 times the price of the paper every issue.—BURTON STEELE, Little Rock, Ark.

"Fills a Long-Felt Want."

THE AMERICAN FARMER is just the paper we have been wanting for years at the National Capital. It is bold, fearless, able, and devoted to interests that have never been properly represented at Washington. May you have 1,000,000 subscribers, for you deserve them, and that many farmers ought to support you in your course.—A. J. WILBEE, Socorro, N. M.

"Never Found a Paper that Suited Me So Well."

I have never found a farmer's paper that suited me so well as THE AMERICAN FARMER does under its new management. Every member of my family—and particularly the women folks—is delighted with it. Go on. You have a great field.—P. P. BROOKS, Canandaigua, N. Y.

"Wish it Was a Weekly."

The main objection I have to THE AMERICAN FARMER is that it doesn't come often enough. I wish it was a weekly.—L. G. REYNOLDS, Skipwith, Miss.

"It is Our Champion."

We shepherds have at last a suitable champion in the camp of our enemies. THE AMERICAN FARMER goes to the front in grand style, and will stay there. More power to its elbow.—C. M. PERSELEY, Mt. Vernon, O.

"The Farmers Have Needed It."

The farmers of the United States have needed just such a paper in Washington as THE AMERICAN FARMER, and they must all rejoice that it has come. I am glad to have you say that you have no affiliations or connections with any political party, but are devoted solely to the political interests of the farmers. That is just what we want.—A. J. SELDEN, Frankfort, Ky.

the reach[illegible]ed for this purpose. This comes [illegible]much the same fashion, or farming land. H[illegible]sh almost as well as what is the most profitable [illegible]on, or batiste, will produce, and then produce it material greatest quantity, of the best quality, and at the least possible expenditure of labor and materials.

THE Belgian millers are clamoring for protection against American flour.

SAMPLE COPIES.

We shall be glad to send sample copies of THE AMERICAN FARMER to any address that may be furnished. Those who wish to see the paper, or who want their friends to see it, will confer a favor on us by sending in requests for specimen copies, to be sent to any address they furnish.

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"Don't be ridiculous," he said.

"I won't stand it," she exclaimed. "You are insufferably impudent. You treat me as if I were your property."

"After pulling you out of the water I feel a sort of personal interest in you."

"You didn't pull me out of the water," she answered, losing her mental balance. "There was not anything the matter with me at all."

He stopped short and looked her in the eyes.

"Honor bright?"

"Honor fiddlesticks!"

"And you did that just to see whether I would try to save you?"

"Yes, I—no, what nonsense! I did it just—just—for fun."

He let go of her arm and took both her hands.

"Florence, will you be my wife?"

"How dare you, sir! How many girls do you propose to in one evening?"

"Someone has been slandering me. I have never proposed to any other woman and I never shall."

Oh, wasn't she glad to hear that! And she believed it without a moment's hesitation.

"You haven't answered my question," he said, "will you be my wife?"

"What for?"

"Because I love you."

"No!"

That was her little triumph. He had made her feel miserable so often, and now she had her chance to be even with him. So she said "No," and then waited. And what do you think he did? Dropped her hands and walked away without another word.

The next day he met her and treated her as if no word of love had ever passed between them. It was simply incomprehensible. Any other man would have gone away, or hung off in the distance and looked miserable, or proposed again; but this one did none of these things, and he never left her side. He did not sigh. He did not look miserable. He looked rather contented than otherwise. And he was simply knightly in his attentions. He not only fathomed her thoughts and executed her commands before she uttered them, but he frequently knew just what she wished when she was not quite sure of it herself. The result was inevitable. There never was a girl who could be comfortable in the presence of a newly-rejected suitor, and the peculiar conduct of this one was enough to set a girl mad. Florence was so upset by it that she tried to drive him away. But he would not be driven. He staid. And before night she actually felt ashamed of herself. He divined that, too, and told Mrs. Chasby Soden about it. Again she went off into a corner and patted herself on the back.

Jarvis Murray kept it up for a week. He was gentle, kind, tender, and manly in his treatment of Florence. He neither said or did any more rude things. He enfolded her in his protection. He perpetually fanned her nostrils with the incense of his devotion. But of love he spoke no word and made no sign. At the end of the week he told her he was going away the next day. He regretted that he could not remain longer, as it gave him great pleasure to think that his humble efforts had contributed to her enjoyment, and he flattered himself that they had so contributed. Was it not so?

Yes, that was so.

Well, then, he said, he should feel that his Summer had been put to the very highest use. Good-by. He hoped she would spare him a kindly remembrance once in a while when she had nothing better to occupy her thoughts. At that she gave a little sob.

"Oh!" she said, "I've been so wicked!"

"Wicked!" he replied. "Not at all. You mean in regard to me, of course. Well, well, it certainly is not wicked for a woman to refuse to marry a man she does not love."

He made a sudden movement as if to leave her, the villain. She seized his hand convulsively.

"But," she cried, hysterically, "but—but I."——

Then he took her in his arms, and that evening Mrs. Chasby Soden kissed her daughter twice.—*New York Times.*

Guessing Characters.

A new way of entertaining guests was described by Mrs. Herrick in one of her articles, which may give an idea to some of THE AMERICAN FARMER readers. The hostess got a specimen of the handwriting of each of her guests and sent them to someone who deduces character from handwriting. This can easily be done in a city. The verdicts thus obtained were inclosed in envelops with the name of each person thus described, and these were bound and tied with ribbons and placed at the plates of the guests. The seals were not broken until dessert was served, and then each one read aloud what was contained in the one addressed to her, and great merriment was the result. "It is very curious" Mrs. Herrick says, "to see how accurately the peculiarities of the different individuals are given."

Sweet Corn.

Sweet corn has many uses besides fitness as a table delicacy. Animals like it much better than field corn, even as men and women do. Sweet corn will be useful to feed cows when the grass begins to fail in the late Summer, and will make milk and butter equal to that produced by June grass. It is also the next thing to milk for fattening young pigs. Chickens are very fond of it and do well on it. But it will not do for the silo.

Gentian Brandy.

The roots that have been collected are first subjected to thorough drying and then are chopped small with knives shaped like sabers. Then the whole mass is put into vats to ferment. These vats are closed vessels about six feet high. When the fermentation has continued sufficiently, the mass is put into retorts and subjected to the fire. What is first given off is "futter;" it looks like buttermilk, and contains little or no alcohol. This is again subjected to the fire, and the brandy that is so valued in the Alps flows from it.

The gentian spirit may be said to be the very elixir of life to the mountain folk. A glass of *enzeler*, half drank and half rubbed on the afflicted member, will cure rheumatism. There is no lozenge or emollient mixture ever made that is so good for a cough and sore lungs as gentian brandy. There is not a stimulant in exhaustion so efficacious as this same spirit. But then it must be taken with the implicit faith in its efficacy that is possessed by the Alpine peasant. He takes a nip of it in the morning to brace him for his day's work and a nip at night to recover his exhausted sinews. He takes it with his meals to assist in the digestion. He takes it when he has nothing to eat, that it may serve as food to him, meat as well as drink. He takes a nip to stir him up to make the first advances to his beloved, and a nip to raise his felicity to its acutest pitch when she has consented to be his. A glass of *enzeler* welcomes the advent of a child into the world and consoles the mourners in their bereavement.

The smell of gentian brandy is not pleasant, especially if new, but with age the spirit greatly improves, mellows, and loses its disagreeable aroma. Of all the kinds of gentian that are used for the manufacture of the spirit, the yellow gentian (*Gentiana lutea*) is the king. This gentian grows in moist, thin soil, and high up on the Alps. It reaches three or five feet in hight, with great strong stems, and the flowers, which are yellow, are produced in dense whorls on the upper part of the stem. The roots are far larger than those of the *Gentiana acaulis*. It has been so sought after that it is now becoming a rare plant. Next to the yellow gentian comes that with the large dark-blue bell; that which is called acaulis. The Germans call it thousand-gulden herb. Akin to this is the pannonian gentian, with its deep purple flowers and dark spots. Then the spotted gentian (*punctata*), and that which is without those blotches (*concolor*). The punctata is pale yellow, and grows about two feet high; the spots are purple.—*Cornhill Magazine.*

Plural of Tablespoonful.

My sympathies are altogether with the plural *tablespoonfuls*. I should opine that nobody has ever yet made the plural of *handful*, *handsful*, and, if so, why should *tablespoonful* follow a different rule? *Handfuls* is found five times in the A. V., as, *e. g.*, in Genesis xli., 47. In the case of *armsful*, instead of *armfuls*, ambiguity might even arise, for *two armfuls* might well be understood to mean as much as a person's two arms could hold, which would be the same as *one armful* if this were understood, as it commonly is, to mean what can commonly be held in a person's two arms. The only plural given to *armful* in the N. E. D. is *armfuls*, and one of the two examples quoted is as old as 1579. The difficulty has arisen, I presume, from the fact that the *ful*—full, in these words, is commonly regarded as an adjective, and that adjectives do not take a plural. But an adjective when added to a substantive to form a compound word ceases to be an adjective, and the whole compound word becomes a substantive and, as such, has the right to take the plural affix at the end of it and not in the middle. Compound *meadow-sweet*, in which *sweet*, originally an adjective, has become part of a substantive, and so one says *meadow-sweets* and not *meadows-sweet*, which would mean something quite different.

The French are better off, inasmuch as they express the *ful* by the feminine termination *ee*, so that there is no compound word. Thus *cuiller*, *fourchette*, *maison*, make *cuilleree*, *fourchet(t)ee*, *maisonnee*. But this arrangement, by its very convenience, lands the French sometimes in difficulties. Thus *cuiller a cafe*, teaspoonful, because *coffee* is the French national beverage and tea is ours. *Teaspoonful* ought, therefore, logically to be (*cuiller a cafe*)—*ee;* but as this little algebraically-expressed addition sum cannot be carried out, they are obliged to content themselves with the awkward and illogical, but understandable, expression—*cuilleree a cafe.*—*Notes and Queries.*

Omnivorous China.

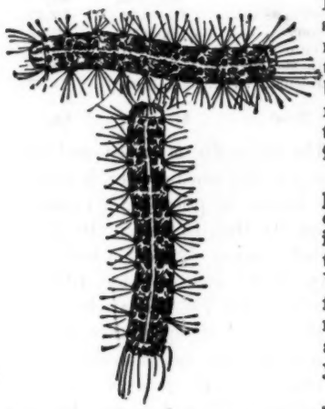
Dogs and cats are subject to the same process of absorption as dead horses, mules, and donkeys. We have been personally cognizant of two cases in which villagers cooked and ate dogs which had been purposely poisoned by strychnine to get rid of them. On one of these occasions someone was thoughtful enough to consult a foreigner as to the probable results; but as the animal was already in the pot, the convives could not make up their minds to forego the luxury of a feast, and no harm appeared to come of their indulgence.—*Chinese Characteristics, by Arthur H. Smith.*

A Hard-Hearted People.

Filial piety finds no place in Thibettian character. It is no uncommon thing for a son to turn his father, when too old to work, out of doors, and to leave him to perish in the cold. The superstition that the souls of the dead can, if they will, hant the living, drives their hardened natures to gain by the exercise of cruelty the promise of the dying that they will not return to earth. As death approaches, the dying person is asked, "Will you come back or will you not?" If he replies that he will, they pull a leather bag over his head and smother him; if he says he will not, he is allowed to die in peace.—*The Edinburg Review.*

THE GYPSY MOTH.

The Great Crusade Against it Carried on in Massachusetts.



THE PEOPLE of Massachusetts in their strife with the Gypsy moth might have formulated a new theory concerning the end of the world, to the effect that everything would be eaten by slow degrees until nothing remained but the caterpillars themselves, and these finding nothing more to devour would finally die, leaving space depopulated.

It would certainly seem as if the little pests were getting the upper hand, and the question remaining was man or moth, when it became necessary for the Legislature to take in charge the work of eradicating them. Within the last two years it has appropriated, from time to time, sums which, added, equal nearly $100,000 for carrying on the work; and though the moth is subdued, it is not yet destroyed.

At first no one could identify this insect, which went eating its way through the gardens and orchards, and farmers supposed they were struggling with the ordinary American caterpillar. But after sage and learned professors of entomology had met, analyzed and consulted, they decided that it was *Ocneria dispar*, or Gypsy moth, and native of Europe. A number of the insects were brought to this country about 20 years ago by a Frenchman, who proposed to conduct some experiments by crossing them with silk worms. Unluckily some of them escaped and remained in the lowlands and swamps about the town of Medford for a dozen years or so, without attracting particular attention. They were first noticed in Medford, and increased so rapidly that the people became alarmed. They soon spread to other towns, and in the Spring of 1890 the Legislature organized a commission to take the matter in charge.

A number of inspectors were appointed, and each was given a squad of men. Thirty teams were employed at first, and the number was afterward doubled, each carrying a tank holding 150 gallons and a double pump, with two lines of hose. Thus equipped, the crusade moved forth.

They sprayed with Paris green from the time the creature hatched until it turned into a chrysalis. Then other chemicals had to be used which would kill by contact, as Paris green had no effect on these. Then came the moth stage, in which it remains but a very short time, and all the rest of the season was spent in destroying eggs.

Young men were employed from the Agricultural College, who were active and had the cause at heart. They succeeded in gathering, altogether, about eight carloads, measuring them by the quart. Nests were found everywhere, not only in trees and shrubbery, but under stone walls and fences, in attics and cellars, and even inside chimneys. When one thinks of examining every nook and cranny, fence, tree, and shrub in a territory, including about 30 towns, some idea can be formed of the magnitude of the undertaking. Besides, special inspectors and police were commissioned to examine all teams and goods passing from one point to another; for it was found that the spread of the insect could mostly be accounted for by transportation.

It must have seemed odd to be held up on the road by an officer of the law while he ascertained if you were concealing any smuggled caterpillars.

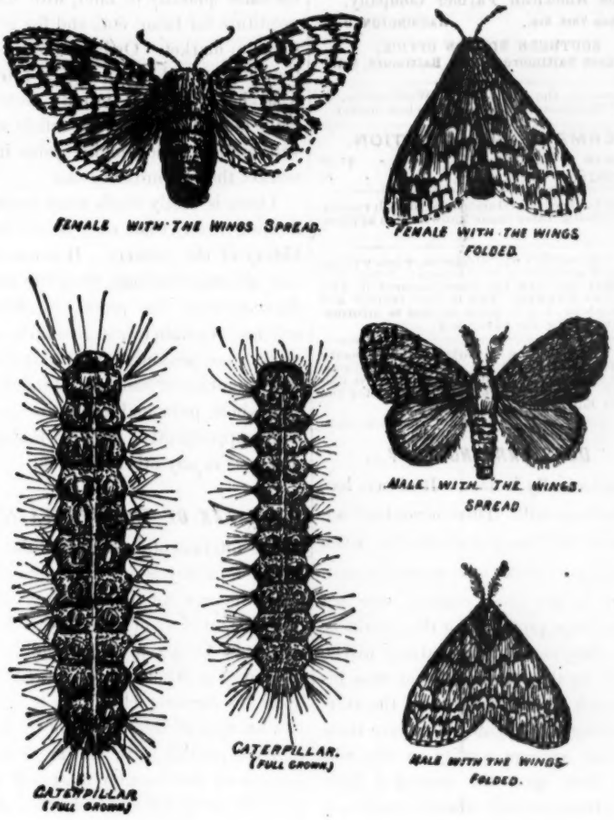
The caterpillar does not migrate, but only moves in quest of food, and the female moth has never been known to fly, so that their spreading can always be traced to some cause outside of themselves. Their greatest object in life is to eat, and they are not particular about their diet. Any kind of tree or plant is good enough; in fact, they can eat anything. They ate barberry bushes and apple trees, they ate pine and Norway spruce, and if extra hungry they ate grasses.

Every possible means was used for their extermination. Paris green was found most effective for spraying; then traps were laid by banding the trees. The caterpillars crowded under these and used them as hiding places, and were easily burned out and destroyed. The work of inspecting vehicles was found impracticable, and was continued only about two weeks. Over a hundred acres of woodland were burned, and everything upon it destroyed. Stone walls were sprayed with petroleum, and then fired.

Some reasons why it is so hard to exterminate are, that it destroys all vegetation as it goes, and does not, like most other insects, confine itself to a few plants. Then it feeds during a long season. The eggs hatch from April to the last of June, and the caterpillars feed through May, June, July, and August. If one crop be destroyed, another will follow, so the district must be gone over again and again. Their increase is enormous; the eggs are laid in sheltered places, and under favorable circumstances nearly always hatch. The young caterpillars, too, are very hardy, and a large proportion of them live to carry on the work of their predecessors.

In consequence of these facts, it requires all the patience, persistence, and zeal belonging to man, combined with all the funds which the State can spare, to carry on a successful war against the Gypsy moth.

The results of the discouraging and tiresome work are most favorable. Trees once bearing plentifully and afterward stripped by the moth have put forth again this season an abundant crop. The vast increase of the moth has been checked,


FEMALE WITH THE WINGS SPREAD.
FEMALE WITH THE WINGS FOLDED.
MALE WITH THE WINGS SPREAD
CATERPILLAR (FULL GROWN)
CATERPILLAR (FULL GROWN)
MALE WITH THE WINGS FOLDED.

and only about one-tenth as many egg-clusters were found in the Fall as were gathered the preceding Spring. The work of destroying them is still going on, and if, as some say, it is impossible to entirely exterminate them, they can at least be held in check, and threaten little danger to territory outside of the present infested district.

A Barmitzvah Speech.

Very pretty speeches are sometimes made by Jewish boys on becoming Barmitzvah. The Barmitzvah speech of a boy in a synagog in Paterson, N. J., ran thus: "My Dear Parents and Friends: To-day I have arrived at that important station of my life when, becoming Barmitzvah, 'a son of the commandment,' I take upon myself the obligations of the Mosaic law. To-day I proclaim with heart and soul in this holy place and in presence of this congregation the unity of God. 'Hear O Israel, the Lord is our God, the Lord is one.' To-day I feel happy to acknowledge myself as one of the community of Israel. To-day I turn over an entirely new leaf in the history of my life. But believe me that it is my earnest desire to remain always a faithful son of Israel, and that, as I enter to-day into the congregation of Abraham, Isaac, and Jacob, I will try to prove by my good deeds that I truly deserve to claim fellowship with the house of Israel. O dear parents, can I ever forget all you have done for me? May God bless you, my relatives and friends, and this entire congregation, now and forever. Amen."

Flax Growing.

Flax will grow anywhere that Spring wheat will, and a newly-broken prairie or other grass land is the most suitable for it. The land, however, must be thoroughly harrowed until it is fine and mellow. If the seed is free from weeds, the soil is not infested with weeds, and in choosing seed the cleanest only should be taken. If the seed is the object of the crop, one and a half bushels are sown to the acre, as a thin sowing encourages branching of the stems and an abundance of bearing side branches. The seed is sown at the same time as wheat is in the Spring, and it should be harrowed in or sown by the drill, as wheat is. If some seeds are left in the soil after harvesting, the plants thus grown are of no damage to future crops. Flax leaves the land quite mellow and well fitted for any following crop. It is exhaustive, and should not be grown consecutively for any length of time. The yield is from 15 to 25 bushels to the acre. The seed is thrashed out as wheat is.—*New York Times.*

THE AMERICAN FARMER.

"*O fortunatos nimium sua si bona norint agricolas.*"—VIRG.

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DOES FARMING PAY?

Emphatically it does. It always has, and it always will. There never has been a time in the history of civilization when at least a portion of those engaged in agriculture in any given country were not making large profits out of their business. There always has and there always will be a profit for the farmer who can raise his products a little cheaper than the average among his neighbors, or have them above the average quality, or who will place them upon the market a little more advantageously than his neighbors. This is the whole secret of money-making in any great occupation. Competition forces down the prices of all staple products to very near, if not actually below, the average cost of production. There are so many men in every trade, calling, or business who must follow it to simply live, that they force down its profits to the lowest possible living rates. They will take whatever they can get to keep soul and body together. As a rule, these are the unskilled, improvident producers, whose goods fill the markets and depress the prices, and yet are produced at needless excess of cost to themselves. This is not merely the case with farmers, but with every other business that men follow. In every calling known to man the failures, the stand-offs between success and failure, and the half-successes, greatly outnumber the positive successes. Taken by-and-large, the men who follow farming make a larger percentage of positive successes than those of any other business. That is, out of every 1,000 farmers there are more who escape absolute failure and who accumulate greater or less competencies than 1,000 lawyers, merchants, manufacturers, railroaders, etc.

The conditions of signal success in farming are the same as in other branches of business. The successful man is one who gets above the average in some way. If he raises common staple crops he manages to raise them more cheaply than his neighbors; he gets more from the same quantity of land, with less expenditure for labor, etc., and for getting them to market. Or he improves upon the quality, and gets a higher price for what he raises. It usually costs but little more to produce an article which will bring a much higher price in the market than an ordinary one.

There is really much more money in farming to-day than ever before in the history of the country. It is true that, like all other business, there are serious fluctuations in the profits of different articles. Certain things give little or no profit some seasons, but this is true of other branches of business. But farming, as a whole, pays, and there are just as many opportunities in it to make big strikes as in any other vocation.

THE TAX OF TRANSPORTATION.

The fundamental fallacy of the Free Trade sophistry is in making no allowance whatever for the enormous burden of transportation of products to distant markets. Owing to the inviolable laws of trade the whole of this burden falls upon the farming class. As steam has now brought all the farmers of the world into competition with one another, the farmers of this country must sell their products at the prices which those of the countries in which land and labor are cheapest bring in Liverpool, less the cost of transportation to that port. If, for example, wheat could be bought in India, Australia, or Russia for 30 cents a bushel, and carried to Liverpool for 20 cents, then all that American wheat would sell for would be as much less than 50 cents a bushel as it would cost to take the wheat from the American farm to the English market. This is so plain that it only requires a statement to be seen by anyone.

The carrier of the produce to market has the first mortgage on it all the time. He gets his money, whether anybody else does or not; he makes a profit, no matter how much the farmer may lose.

The farmer has to sell, no matter what the price, and regardless of whether he makes or loses; but the carrier will not carry unless he makes money by it. He has the farmer at his mercy, and demands his pound of flesh.

Free Traders continuously clamor that a free interchange of products gives all classes of producers the greatest amount of each other's products. This would be true if all the producers were close neighbors, and could exchange their products directly. That is the kind of free trade that we are strongly in favor of, and we would make the freest kind of trade among such neighbors as are within the boundaries of the United States. But the Free Traders strenuously ignore the great fact that when different kinds of producers are separted by great oceans, and live in different parts of the world, the carriers and go-betweens—who are not producers at all—are parasites who devour the profits of the agricultural producers, and keep them in poverty. The most intolerable tax that the farmers of this country have to endure is the cost of maintaining the great railroads and steamship lines, and the armies of middlemen who live and grow fat upon the tolls they collect on the produce which our farmers send to distant markets. Every mile that a bushel of grain or a pound of meat is carried away from the American farm on which it is raised is a direct diminution of the legitimate profits of the farmer who produced it. The farmer must not only bear the whole burden of sending his produce to his customers, but also of bringing back the goods he gets in exchange. It is the farmers of this country, and the farmers alone, who must pay every dollar of the expense of building the great railroads to the seaboard, and of running them; of constructing the splendid steamships, and of navigating them, and of the wealth accumulated by the hordes of middlemen who interpose between them and their customers.

The remedy is to have home customers, and have them as near home as possible.

OHIO has taken a long step ahead in the direction of honesty and proper business methods. The Attorney-General has rendered an opinion that the law requires the branding of all cheese made in the State, whether sold at home or abroad. Of course this is what honest cheese-makers want, and there has been a conference between the cheese-makers and the Dairy and Food Commissioner, at which it was decided that "the butter fats in Ohio full-cream cheese should be in the same ratio to Ohio standard milk that Minnesota and New York full-cream cheese bears to the milk produced in those States."

Hereafter, therefore, Ohio cheese will be branded according to the following schedule:

"Ohio Full Cream,	40 per cent.
"Ohio State,"	30 "
"Ohio Standard,"	16 "
"Ohio Skimmed," all below,	16 "

PROGRESSIVE cigar-makers are of the belief that the Sumatra fad has had its day, and that smokers are rapidly coming back to the idea that the domestic wrapper makes the better cigar. This is right. We can raise as good tobacco here as anywhere in the world.

OUR EXPORTS.

In spite of the great reductions in the value of the shipments of cotton and oil our exports in May footed up a much larger figure than for the same month of last year. The comparison of the principal items is as follows:

	May, 1892.	May, 1891.
Breadstuffs.....	$19,410,304	$12,330,231
Cotton.....	10,754,962	11,460,987
Provisions.....	11,099,977	7,410,469
Cattle and hogs.....	3,403,231	1,845,923
Petroleum.....	3,171,926	3,585,276
Total	$47,840,290	$36,632,886

The shipments of wheat and flour were not only much greater in quantity but higher in price. The exports of wheat for May, 1892, were 10,127,124 bushels, against 6,286,987 bushels for May, 1891; and of flour 1,163,341 barrels, against 799,497 barrels for May, 1891. The high speculative price of corn during the month interfered with its exports, and the quantity sent abroad fell off to 5,839,293 bushels. Rye also flattened out, but we sent out 1,211,674 bushels of oats.

Of cotton there was more than 11,000,000 pounds more sent out than in May, 1891. The quantity of oil exported was about the same as last year, but the price was much lower.

GROWERS of cigar tobacco have made a mistake this year in greatly increasing their acreage, but not paying sufficient attention to improving the quality. What the country wants most is not more cheap tobacco, but much more high-class and high-price leaf. Tobacco-growers should not extend their acreage, but raise finer tobacco on that already devoted to the crop. There is lots of money for the asking for the man who raises better tobacco than he has been growing; he does not hunt a buyer; buyers will hunt him. The tariff is strongly in his favor, and so is the condition of the foreign market. The Sumatra crop is very short this year, and prices for good wrappers are going up like a kite. Let tobacco-growers resolve next year to cut down their acreage fully one-third, but make the remaining two-thirds yield finer leaf than ever raised before, and they will swell their bank accounts most gratifyingly.

IT is estimated that this country loses over $700,000,000 a year by adulterated food. This is more of a burden upon it than several of the great European armies are upon their countries. Let Congress not fail to pass the Pure Food Bill before it adjourns.

THE House's Free Wool Bill still sleeps quietly in the Senate Committee room.

RICE IN LOUISIANA.

The rapid development of rice culture in Louisiana is one of the surprises of American agriculture. It has grown steadily and rapidly from the very first, until this year the planters are calculating on a crop of over 9,000,000 bushels, which is three times as much as the production of any year before the war, and twice as much as any since. The low price of cotton has turned the attention of many planters who never grew it before to rice, with the result of doubling the acreage devoted to it. Louisiana has an immense area suitable for rice culture, and the quality of that produced has no superior in the world.

Last year we imported 510,766,163 pounds, valued at $928,888. This would be a very snug little sum to put into the pockets of the Louisianians, and we hope that every dollar of it will eventually get there. The duty on rice is from eight to 12 cents per 100 pounds.

THE season is now far enough advanced to allow a pretty safe prophecy as to the crop yield. Taken in general, the production will be above the average, and but little below the magnificent fruitfulness of last year. There are many drawbacks to this gratifying statement. Late frosts, destructive storms, floods, and winds, have done their damage so effectually as to reduce the crops in some regions to but a fraction of what they should be. But the expectation now is that we shall have plenty of corn to sell and keep.

The crops in Europe are better than they were last year, but there will still be a great deficit there, which will require all our surplus grain at good prices.

AFTER a stubborn fight of more than half a century, the broad gage for railroads has finally been surrendered. This occurred several years ago in this country, but in England a number of leading roads have clung to the old 7-feet gage, which the great engineer, Brunel, advocated. The original standard gage adopted by Parliament was four feet eight and a half inches. This was Stephenson's idea, but Brunel's opposition secured a permission to roads to adopt any that they chose. The result was any number of different ones. After a long fight all the roads in Ireland adopted five feet eight and a half inches. The rest of the roads in the United Kingdom have now come to this, the last to give in being the Great Western Railway, which recently reduced its gage from seven feet to the standard in a single day, with a force of 5,000 men. The total cost of the change was $5,000,000.

ROOT PRUNING.

The next issue of THE AMERICAN FARMER will contain an article of unusual value on "Root Pruning," by Thos. L. Brunk, Professor of Botany and Horticulture in the Maryland Agricultural College and Experiment Station. This describes a new method of the highest importance, and the value of which has been conclusively demonstrated by practical tests. THE AMERICAN FARMER will be the first to give this information to the farmers of the country.

"PROF." FRANK MELBOURNE, "the rain wizard," is working the farmers of western Nebraska and eastern Colorado in fine style. He makes contracts for producing rain at six cents an acre, and then makes his dates for showers correspond with those stated in the Weather Forecasts. He made a contract with the farmers of Logan, Phillips, and Sedgwick Counties, Colo., and Keith County, Neb., to wet down 8,000 square miles with a half-inch of rainfall inside of 72 hours. A rain came up which precipitated from .20 to 1.25 inches of rainfall over 17,000 square miles, and of course he reaped a pocketful of shekels. How dearly the American people love a humbug.

MINISTER LINCOLN has found it necessary to warn Americans not to send money to fellows in England who pretend to recover money and valuable estates for them. These swindlers get thousands of dollars every year out of credulous Americans. But the warning will do no more good than the constant exposures in the papers of the tricks of the green-goods swindlers. "A fool and his money are soon parted," and the fool will throw it away, no matter how impressively he has been warned.

IT IS just as necessary for a farmer to read the best books on his business, and to study the papers and periodicals devoted to it, as it is for the lawyer, doctor, merchant, or engineer to constantly read everything that relates to their callings, and keep pace with every step of progress. The farmer has even more complex subjects to deal with than they have, and he cannot hope to deal with them successfully without studying every phase of the matter as constantly and earnestly as they do.

GOV. MCKINLEY, of Ohio, says: "Farmers cannot expect any legislative body to pay any more attention to the needs of agriculture and the rights of farmers than they themselves give." In other words, if farmers want anything from our legislative bodies they must ask for it.

A GREAT need in this country is for a flax-dressing machine which will do away with the necessity of hand labor. Such a machine would add many millions a year to the wealth of the farmers. Several machines which attempt to do this have been devised, but they fail to answer the purpose, and consequently a vast number of tons of valuable flax straw are suffered to rot unused on the ground every year. There is enough of this to furnish all the linen our people buy.

THE House of Representatives has wisely forborne any meddling with the Sugar Bounty, against which there was such an outcry when the present House was elected.

COMPLIMENTS.

"Must Keep Files of It."

The fact is THE AMERICAN FARMER has become so interesting that we must keep files of it. Let the good work go on.—W. S. POWELL & CO., Baltimore, Md.

"Well Pleased With It."

I have received THE AMERICAN FARMER, and am very well pleased with it.—J. M. STRATTON, Dorsey, Neb.

"No Paper Like It."

I cannot tell you how much I like THE AMERICAN FARMER. There is no paper like it in the whole country.—E. B. HOLZAPFEL, Augusta, Ga.

"Worth Ten Times the Price."

The temperature and rainfall charts which you publish are simply invaluable to all wide-awake farmers. They are worth 10 times the price of the paper every issue.—BURTON STEELE, Little Rock, Ark.

"Fills a Long-Felt Want."

THE AMERICAN FARMER is just the paper we have been wanting for years at the National Capital. It is bold, fearless, able, and devoted to interests that have never been properly represented at Washington. May you have 1,000,000 subscribers, for you deserve them, and that many farmers ought to support you in your course.—A. J. WILBEE, Socorro, N. M.

"Never Found a Paper that Suited Me So Well."

I have never found a farmer's paper that suited me so well as THE AMERICAN FARMER does under its new management. Every member of my family—and particularly the women folks—is delighted with it. Go on. You have a great field.—P. P. BROOKS, Canandaigua, N. Y.

"Wish it Was a Weekly."

The main objection I have to THE AMERICAN FARMER is that it doesn't come often enough. I wish it was a weekly.—L. G. REYNOLDS, Skipwith, Miss.

"It is Our Champion."

We shepherds have at last a suitable champion in the camp of our enemies. THE AMERICAN FARMER goes to the front in grand style, and will stay there. More power to its elbow.—C. M. PERSELEY, Mt. Vernon, O.

"The Farmers Have Needed It."

The farmers of the United States have needed just such a paper in Washington as THE AMERICAN FARMER, and they must all rejoice that it has come. I am glad to have you say that you have no affiliations or connections with any political party, but are devoted solely to the political interests of the farmers. That is just what we want.—A. J. SELDEN, Frankfort, Ky.

THE direction of public opinion among farmers is all in the way of selling pure, high-class goods, making a reputation for the same, and reaping the profits of such a reputation. It is now suggested that every egg be marked with a rubber stamp, showing the owner's name and address, and the date on which the egg was laid. This looks practicable.

COMPETENCE, if not wealth, is in the reach of every owner of a tract of farming land. He has only to find out what is the most profitable crop his land will produce, and then produce it in the greatest quantity, of the best quality, and at the least possible expenditure of labor and materials.

THE Belgian millers are clamoring for protection against American flour.

SAMPLE COPIES.

We shall be glad to send sample copies of THE AMERICAN FARMER to any address that may be furnished. Those who wish to see the paper, or who want their friends to see it, will confer a favor on us by sending in requests for specimen copies, to be sent to any address they furnish.

Address all communications to

THE AMERICAN FARMER,
1729 New York Avenue,
Washington, D. C.

Get up a Club for THE AMERICAN FARMER.

RAISE CLUBS.

We want every one to try to raise clubs for THE AMERICAN FARMER. It is a splendid journal, and will find favor in the eyes of all who see it. It ought to be very easy work to get subscribers. We will make good inducements for sons and daughters of farmers to get up clubs. Write for terms to club-raisers, and premium lists.

THE AMERICAN FARMER *is only $1 a year.*

A SPECIAL OFFER.

The American Farmer for the Rest of 1892 for 25 Cents.

In order to extend the circulation of THE AMERICAN FARMER and give a great number of people a chance to become acquainted with its many good points, we will make a special offer: *We will send the paper from now until Dec. 15, 1892, for 25 cents.* This is a splendid opportunity to get a vast amount of the very best reading matter for a very small sum. Do not fail to embrace it.

Address

THE AMERICAN FARMER,
1729 New York Ave., Washington, D. C.

Running the Household.

She put up with such people as long as she could,
Then determined to move to a neighborhood.
She had found in this world—it is ever this way:
One can never advance if in one place she stay.
And her lord, unlike Phœbus, believed that some good
Might result from her running things just as she would.

So she pulled up her carpets, late Saturday night,
And packed everything that she could out of sight.
Then remembered the Sabbath quite holy to keep,
Not on that day attempting the bare floors to sweep.
For she argued it thus, and perhaps she was right,
There are certain church duties one never should slight.

Monday morning she moved where the Four Hundred dwell,
And she stayed just two months, when the old tale to tell.
The landlord demanded a rise in the rent,
And she, flatly refusing to pay him a cent
Above what she promised, for better or worse
Moved out, to convince him he could not coerce.

She has now moved so much that the job's a fine art;
Of course, it is work, but she's learned as a part
Of her lesson in life, to succeed one must try:
And she knows very well that it is useless to cry
If she makes matters worse by a moving ill-planned;
But just keeps on moving all over the land.

ENVOY:

Prince, scoff not nor jest at the tale of her wo,
But honor her progress where'er she may go,
Her neighbors may wonder, her husband complain,
And her friends may declare that she's getting insane,
But think of the self-satisfaction she feels,
For she's running the household—she runs it on wheels.

By the Editor's Fireside.

"No life
Can be pure in its purpose and strong in its strife
And all life not be stronger and purer thereby.
Know this surely at last: honest love, honest sorrow,
Honest hope for to-day, honest work for to-morrow:
Are these worth nothing more than the hand they leave weary?
The heart they have saddened, the life they leave dreary?
Hush! the seven-fold heavens to the voice of the Spirit
Whisper: He that o'ercometh shall all things inherit."

NOTHING can be truer than the sentiment embodied in these lines, nothing more certain that we make or mar not only our own lives, but those of others when we grow weak and weary of doing because all does not go as we wish for, or as we have dreamed would be the realization of our hopes. If we constantly see ourselves a failure, if we are looking always upon the shadowy side of life, we may rest assured that the failure will come, that the shadows will grow deeper. Always it is best to hold before our mental sight a life of noble accomplishment, a life full of dignity, and of the material beauty which will satisfy our love of what is harmonious and desirable in our surroundings. Holding such thoughts and such images before us it sets a current of forces toward us that will create what we desire. I am not speaking extravagantly, as you can discover if you look around you. The successful men and women are those who have confidence in their powers and are strong in their will to do. If each of us will believe in joy and peace and prosperity we are so much more likely to possess them. Lilian Whiting, in writing of this matter, says: "No good can approach through the atmosphere of skepticism regarding its reality or experience. Unbelief is a non-conductor through which the heavenly magnetism cannot pass." Then she calls attention to what one of the Apostles says of Jesus in a certain city that he passed through, where he did no mighty work there because of their unbelief.

Of course, I do not mean that because you rise to-day and are hopeful and happy, resolving to look forward in the spirit in which I spoke, that you will at once realize all your desires. That would be impossible. But this mood of mind persevered in is the beginning of success in whatever you desire to undertake. It will bring courage to do, and that in itself is a long step forward. The faint-hearted rarely succeed, and it is easy to see why. Believing that they will fail, they do not take hold with the spirit and energy which are absolutely necessary to bring results. You find here the old saying, "a fool for luck," applied to an individual who does not seem to be any smarter than his neighbors, and yet everything turns to his advantage. He is not smarter, but he probably has just that quality of hopefulness that puts the zest into every effort that he makes, and attracts to him those finer forces which too few of us are ready to recognize, but which surely exist and are at our service whenever we open our mental doors for their admittance.

The woman who always sees herself in fancy shabbily dressed, living in a poor way and with little opportunity for enjoyment, is far more likely to spend her life thus than the one whose mental atmosphere has always the rosy hue of hope, and who is sure that the good time is coming. Every life has its influence upon every life surrounding it, and if it is "pure in its purposes and strong in its strife," in other words, if it is lived at its best, it is a helpful life to all near it, no matter how narrow and restricted the circumstances in which it is lived may seem to be.

* * *

A VERY good article was given in a recent number of the *Social Economist* about woman's economic progress, which touched upon the problem that has exercised the brains of so many people regarding the servant question. That there is a great change from the old days is certain. This part of the labor question has undergone as many changes as any other. In the days of our grandmothers, when the help was the daughters of the neighbors or of people living in the same community, it was customary to treat them as if somewhere near upon social equality with their mistresses. Then came the influx of foreigners, driving out the American girls, who forthwith went into factories to earn their living. The new class of servants were unaccustomed to anything but the most poverty-stricken surroundings. They were ignorant and far from being tidy and efficient. The consequence was that they were placed in garret rooms, with perhaps one small window and most meager surroundings. That day, too, has passed. The change began in the cities where Biddy was forced down upon the same floor as that occupied by the family, with whom she was thus brought into contact at all hours of the day and evening. She began to wake up to the idea that there are better things than she had been accustomed to having, and she was then seized with a strong desire to have the same comforts and enjoyments. Forthwith we see her indulging in articles of finery, which are as nearly copied from her mistress as possible. She makes greater demands in regard to her duties and their limitations. With the increase of her desires comes also the thought of higher wages. She mingles with those who have gone on ahead of her, having started from the same plane, and her ambition is roused to take steps upward in the social scale.

There is no question but these ambitions on the part of the servants have in them elements of great inconvenience to the busy housewife who must have their services. Yet we may well question whether it may not be considered, in the aggregate, a blessing to the world. Certainly, anything which will aid in lifting people out of lower conditions into higher, which shall make the brain work more rapidly, which make possibilities appear that once were outside of the range of their thought, cannot help but have in the end beneficent effects.

It is true that, at the present time, domestic service is in a chaotic state, which, to say the least, is discouraging. Servants demand high wages, and in nine cases out of ten do not perform the duties required, or else perform them in a very unsatisfactory manner. They are not fitted for what they undertake. They seem to have no other idea than to get through their work and to receive their money. There really is little of conscience entering into their efforts.

The question is, are not housekeepers somewhat to blame for these conditions? Have they not degraded houshold labor? To my mind, one of the most serious things about the matter is the entire want of respect which these girls have for their work. It is, perhaps, the best thing they can do in order to earn their living, but they do not feel that there is anything in it which, outside of that one consideration, is of any importance. The thought in their minds is not, ordinarily speaking, how well can this be done, but how much may I slight these duties and yet retain my place. This condition of things has arisen largely from the way in which those who do this work are spoken of. In reality, as Mrs. Amelia Barr says, "domestic service is as honorable as mechanical service, and the woman who can cook and get dinner is quite as important to society as the man who makes the table on which it is served.

There is no question but that the whole system of domestic service will have to be changed. It will need to be put upon a purely commercial basis. The hours of service will have to be defined as well as the duties, and with clearness. Outside of this there should be no interference with the personal freedom any more than there is in any other condition where there are employers and employed. Of course there is one exception to this, arising from the fact that the one who performs domestic service for a family comes into closer relations than in other employments, and moral character is therefore of more importance to the family. But otherwise, when the duties are performed, the maid should be free to come and go within proper limits as she chooses, without surveillance.

Housekeepers should also imitate business men in regard to the recommendations which they give to their discharged employes. Many have not the least conscience in the matter. To avoid disagreeable things, they will give a letter as strong in commendation as if the one taking it had been as faithful and as efficient as possible. Truly there are many things to be considered in this problem of domestic service.

HINTS FOR PROSPECTIVE BRIDES.

They May Also be of Service to the Grooms.

The invitations to a wedding should be addressed to each member of a family. These should be inclosed in a larger envelope and directed to the head of the house. The answer should be returned within the shortest time possible. Silence is exceedingly discourteous.

To persons not invited to the wedding whose friendship or acquaintance the bride desires to retain, should receive announcement cards from the parents of the bride; upon these the full name of the groom should always be given. The wed-

ding cards or wedding stationery should be perfectly simple, white, unglazed, and without ornamentation. At a home wedding, the bride, if in full dress, should wear her vail until she retire to dress for her journey. This vail is a large square of tulle, which is not hemmed, and is fastened on by gathering one corner under a cluster or wreath of flowers, or orange blossoms.

The question is often asked as to the dress of the groom, whether it should be a dress coat or otherwise. If it is an evening wedding, a dress suit is the only proper thing. At a noon wedding, the groom wears a cutaway coat, but a Prince Albert frock coat at an afternoon wedding. The wedding gifts should be sent to the home of the bride within a day or two of the wedding, accompanied by the card of the giver. It is not now always the rule to show the gifts. If they are, they should be placed in some retired room or corner, where they will not seem to be shown ostentatiously.

The refreshments at a wedding may be very simple, or elaborate, depending somewhat upon the formality or informality of the occasion. A wedding breakfast at this season of the year may include croquets, sandwiches, salads, fruits, ices, and coffee.

The bride should always offer her hand to those introduced to her. It would not be proper for her to use orange blossoms at her receptions. Any other white blossoms are admissible. A very pretty and stylish dress for a simple home wedding, and for receptions afterward, is of white India silk.

The expenses of the wedding belong to the bride's family, with three exceptions: The groom gets the ring, the bridal bouquet, and pays the clergyman's fee. The cards and invitations are furnished and sent out by the parents of the bride, or her nearest relative, if she has neither father nor mother, and should be sent at least two weeks previous to the marriage.

The question of the necessity of returning an answer to a wedding invitation has been sometimes questioned, and good authorities differ. It seems a difficult thing to decide the matter, but if no acceptance is given there should certainly be a speedy call upon both parents and the young couple should they be elsewhere than under the parental roof.

The bride does not now cut the wedding cake, as formerly with great ceremony; the newer way is to have little boxes covered with satin or moire, which are filled with bride's cake and tied with silver ribbon or cord. These are given to each guest when leaving the house after the reception.

Someone inquires as to the form of the announcement cards. They are upon note sheets, and read in this way:

Mr. and Mrs. Thomas Mordaunt
announce
the marriage of their daughter
Gertrude
to
Mr. Charles Maxwell,
Thursday, July second,
at twelve o'clock,
Trinity Church,
New York.

A note of congratulation should be addressed to the parents of the bride within a week after this announcement card is received.

The bride and her attendants should carry their bouquets to the supper table, or while taking refreshments, and also during the reception. The attendants of the bride always offer their congratulations and good wishes immediately after the ceremony, and before the company at large do so.

For the Home Table.

FRIED SHRIMPS.

Dip the shrimps in a batter made of two beaten eggs, one tablespoonful of cream, and a little salt; then roll in cracker dust; dip in batter again; then in dust, and fry in butter.

APRICOT SHERBERT.

Mix together one pint of milk, one pint of sugar, one pint of water, and one pint of canned apricots rubbed through a sieve. Freeze. Peaches may be used instead of apricots.

RICE PUDDING.

One-fourth of a cupful of rice, one teaspoonful of cornstarch, two tablespoonfuls of sugar, one half pint of water, one pint of milk, and one-half teaspoonful of salt. Put the rice in a saucepan with one quart of cold water and cook slowly one-half hour on the back of the range. At the end of that time, pour off the water and add the one-half pint of the cold water. Place in the double boiler and cook half an hour; then add half of the milk. Mix the cornstarch with a little of the remaining milk and stir into the pudding. Cook for a half hour longer. Take the pudding from the fire and add the salt, sugar, a little nutmeg, and the remainder of the milk. Pour the mixture into a pudding dish and bake in a moderate oven 20 minutes. Serve cold.

SWEET PICKLED GREEN TOMATOES.

Slice one peck of green tomatoes and four green peppers; place in a stone jar, sprinkling each layer with salt; cover with boiling water and let stand over night. In the morning drain well through a collander and add four large onions sliced, an ounce of whole cinnamon, an ounce of cloves, and two pounds of brown sugar. Put in a kettle and nearly cover with vinegar, boiling until tender. Set away in a jar, and the next day, if the sirup is thin, draw off and boil it down until it is like thin cream when cold.

SOMETHING ABOUT FASHIONS.

For the Women Readers of "The American Farmer."

One of the fashions for Summer, which is very convenient, is the wearing of blouse waists, which are allowed upon all occasions except those of strict ceremony, where full dress is necessary. They are often made so prettily and of such exquisite materials as to be very jaunty. One of the best things for use in this way, unless something that can be often washed is desired, is the thin China silk of any color that may be desired. A neat way of making these is to tuck the silk from throat to waist in the smallest hand-run plaits. Draw these closely together at the throat and waist, and then they will stretch out smoothly over the bust. Have loose sleeves with high cuffs, also tucked, and either a standing collar of the folded silk or a high plaited ruff of silk.

Wash surrah is also a good material to be used for this purpose. This comes in the prettiest stripes imaginable, and may be made in much the same fashion, or else with three broad plaits back and front. This silk will wash almost as well as linen. Another pretty blouse may be made of polka-dotted silk, linen, or batiste, with the plaits as last described. Have a belt either of leather or of the material of the waists made over stiffening. Tall, slender figures may have a length of silk drawn around the waist and fastened, but one who is inclined to be stout must never venture upon this or upon a wide belt.

Black and white silk is very fashionable this season. The dresses are made with plain bell skirts, trimmed only around the bottom, either with tiny puffs, frills, or some kind of passementerie. Rows of velvet ribbon are also very pretty. Very few skirts are seen draped, although there is a fancy for two skirts, a silk underneath and a skirt of cloth or cashmere of contrasting shade over it. Both of these skirts are upon the same yoke, and then the upper one is lifted slightly by means of cords, or else a slight festooning.

There is a great variety of belts and belt buckles, and they are shown in all sorts of designs, and at different prices.

A great deal of lace is used for the trimming of dresses. The broad lace is put on as a flouncing around the bottoms of the skirts, and narrower as trimming for the waists. Lace flouncings, which come wide enough to form the skirts, is frequently introduced as a panel, plaited or plain, over some silk that contrasts with the color of the dress.

WORK FOR BUSY FINGERS.

Pretty Things for Making Home Attractive.

FAN PINCUSHION.

Cut a triangular piece of cardboard, curved at the lower edge like a fan; cover on both sides with apple-green silk laid in five fan plaits near one straight edge. Decorate the plain space with a spray of apple blossoms embroidered or painted with water colors. Put the pins in the folds of the plaits at regular intervals and down the straight sides. Around the curved edge of the fan put a fringed-out ruche of the green silk. Put a bow of satin ribbon the shade of the apple blossoms at the top to conceal the loop that suspends the cushion.

PLATE DOILY.

Cut a circular piece of linen about the size of a breakfast plate. Have stamped around the edge wild roses alternated with the leaves, with leaves straying toward the center of the doily. Work the roses in button-hole stitch with shaded pink silks. The leaves work in button-hole stitch with golden-green silks. Cut the linen away from the edges.

BLUE JEANS PORTIERE.

For a closet door blue jeans makes a very pretty curtain. Two breadths will probably be necessary. Have a pattern of large figures stamped upon it, and outline with white rope linen. Across the top put a network of white cord with long tassels.

For the Farmer's Household.

The following are a few answers to inquiries:

Watch pockets are no longer placed in the front of the dress, but the watch is slipped into the waist and fastened by a fob chain passed through a button-hole.

A nice, home-made perfumery is made of one-half ounce each of attar of lavender and of bergamot, and a dram of attar of cloves mixed with a pint of spirits of wine. Let this stand for some time before using.

A lady walking with a gentleman always takes the inside of the walk. It is perfectly proper for the bride to give the groom a present if she desires to do so. If a gentleman asks permission to call upon a lady, it is not necessary for her to appoint an evening for the call, unless he begs her to do so.

When a bride is congratulated, the only acknowledgment necessary is a simple "thank you."

It is not necessary for a lady to make any reply when a gentleman offers her his arm if she accepts the courtesy.

SHEEP AND WOOL.

Shearings.

A full-grown fleece means 365 days and six hours.

Joint in wool is caused by hardship, starvation, or sickness.

Diversified, intense sheep raising is the front row on top shelf, and can stay.

A mutton and wool sheep in its best type meets all the purposes of a sheep.

Is it a fact that sheep will destroy wild garlic? and how will it affect the mutton?

There is a good reason for everything, and success or failure in sheep are not exceptions.

This is a world of progress, and the sheep industry is in closest touch with human industries.

The amount of wool a sheep will grow depends upon the breed and healthy uniform food supply.

If pastures are very rank, it would be well to mow them for hay, and let the sheep have dry, healthy pastures.

Steel wire fences solve the dog question, and corrugated iron roofing solves the shelter problem. This is the iron age.

No profitable, economic, progressive farming is found in the world that has not sheep applied to the situation in some form or other.

Shear the early lambs in August and September, especially the long-wooled breeds. The wool is better and the lambs are better off.

The uses of sheep, the interest in sheep, the incidents connected with sheep are most interesting and surpass all other domestic animals.

A Kentucky sheep-raiser says: "If the crop of dogs was not so large in this country, there would be a great deal more profit in sheep raising."

Cross-bred Dorset horn ewes make good mutton lamb mothers. This hint may be noted by those who propose to make this a feature in their business.

One man succeeds with sheep and another does not. Can anybody tell why? Maybe there are several good reasons. It is time this was explained.

Scrub sheep are not to be abused. They have the best blood in their veins and are made scrubs by scrub care and management. "That's what's the matter."

Pasturage is the basis of sheep husbandry. It may be grass, and there be very little grass about it, but as it is so are the sheep in every characteristic. This is the whole secret of breeds.

A flock of sheep were attacked by dogs in Monghan County, Ireland, with great destruction of life. Some that were bitten, and some that did not show signs of being bitten, developt unmistakable evidences of rabies.

The value of pure bred and registered sheep will be apparent and appreciated only when the condition is kept up to the highest notch. Otherwise all the time and money put into good stock is a total waste. Keep this in mind.

The "old pine field" system of agriculture is a marked feature of farming in Virginia, Maryland, and the South. Had sheep been made a factor in the economy of the farm as in Pennsylvania and Ohio, the situation would be very different from what it is to-day.

There are a good many inconsistencies in sheep raising. None equal, however, the keeping of sheep in high condition in Winter and neglecting them in Summer, or requiring them to live in a dry, shadeless, stinted pasture, where life is a burden and fullness a stranger.

Push the lambs by feeding oats mixed with wheat bran. Mix a little corn as they grow older. Why push the pigs, calves, and colts, and leave the lambs to depend on their mothers until both are run down in condition? Keep up the condition of ewes and lambs, and trouble will be avoided later on.

Practical prevention beats practical treatment of sheep diseases. This complaint of sheep dying of strange, unheard-of ailments is altogether too common. See to it that perfect good health is gained and maintained year in and year out. Strong, hearty sheep do not die. It is feeble, puny ones.

Observe how sheep go out to pasture in the morning. They may come in at night full as ticks, but if they go out dull and lifeless in the morning, with their ears a-flopping every step, just be warned at once—they are going wrong for some reason. A remedy must be found at once. This sign never fails.

A sheep grows wool when it is full of good food and is comfortable. This may be every day and night in the year, and it may not; it all depends. Full-fed sheep give sound fleeces. The fibers are even in fineness and strength from one end to the other; such fleeces handle "foody," are elastic, not dead, when pressed by the hand.

What is meant by a good shepherd? The man that succeeds is a good shepherd. He has learned to be an expert. He has become familiar with all the details of sheep raising. He always has time to attend to their wants; is never too tired, never forgetful, never fails to anticipate their wants or caprices. He loves his flock above himself. A good shepherd is known by his flock; they are not afraid of him. A good shepherd is born, not made.

Tagging Along Behind.

It is not very complimentary to the high character of sheepmen in intellectual and moral worth, but too near the truth, that most of us are tagging along behind the procession. We are hustled in wool by Australia, South America, South Africa, India, Russia, and other countries. We are hustled to find just what we can do profitably that everybody else is not doing. We find a place once in awhile, but when we get around again somebody has gotten there, too, and hustles us to "even up." There is a front, and we need to find it.

The Best Time to Sell Wool.

The best time to sell wool is as soon as it is ready. After all the inquiry and discussion over this matter, and with years of experience these are our conclusions. The prices may not be quite so good as are possible next Winter, but the use of the money will be equal to the probable gains in prices.

Effects of Railroads on Sheep.

The increase of transportation facilities in the extension of railroads into almost every nook and corner of our territory has confounded the former practices of the sheep industry of the United States. The changes have come so rapidly and are so marked that a true comprehension of them is impossible at this time. When the fact is considered that the ranges furnish the great bulk of grass mutton and the great bulk of feeders and lamb mothers; when we think of Nebraska, Kansas, Missouri, Iowa, and Illinois corn-fed, marketed on the farm, to these range sheep, we wonder what would have been the condition of farmers, range men, and mutton eaters were it not for the railroads. The old theory that wool could always be the principal aim of the western flockmaster; that mutton could only be grown profitably contiguous to city markets, has been upset, and all our plans and expectations of the possible and the impossible have been changed by railroads.

Lambs for mutton now come from regions 400 to 800 miles from localities unknown as sheep-raising regions. Nor is the question solved yet. The cheaper West offered facilities for raising wool that could compete with the world; the sheep left the agricultural States to occupy these western lands. The East, save in Ohio and other favorable localities, quit wool growing proper and, as a rule, sheep-raising entirely. Later on the mutton industry attracted attention and investment of capital. At once the ranges responded, as shown above, and the grain-raising States took up a new and profitable branch of handling of sheep, and other regions east of the Mississippi found certain lines and means of keeping sheep profitably; all, more or less, dependent, however, upon the railroads and the ranges of the South and West. When wool growing shall again become profitable, and no one doubts but it will, the ranges will find more profit in holding their sheep for wool than in selling them for mutton, and the East will be again engaged in raising sheep to supply the demand for mutton.

It is not fully known what per cent. of the increase of flocks in the West and South are sent to market each year. Certain it is that the supply of Western towns and cities, together with the mutton consumed on ranches and farms, together with shipments East, is a very large aggregate. Nor is it believed that the increasing demand can be supplied very much longer without affecting the industry on the ranges more or less, if not felt now to be farther on. All these changes, coming after the situation of the wool industry became so seriously disturbed, were certainly very fortunate for the industry, and were only possible by reason of the railroads. It will be seen that in this, as well as other industries, the evolutions going on are helpful and hopeful of the future prosperity of the country. A country so large, so varied in soil and climate, adapted to so vast a range of products, with such vast and curious developments, suited to occupancy by many millions more of industrious inhabitants, with such destinies, cannot fail to undergo vast changes before sheep husbandry shall be adjusted to the conditions of agriculture, commerce, manufactures, and the possibilities of our people. The railroads, now and to be, are destined to be a most potent factor of good to the American sheep industry.

Another unexampled service the railroads are doing for sheep husbandry, particularly pastoral sheep-raisers, is the readiness with which flocks can be shifted from one section of country to another as may be necessary. No such advantages are known to any other pastoral region in the world. It is fortunate that railroads have to cross the range country of the United States, and as the situation will be in a few years, if drouth or disaster cuts off the grazings, a short drive to the railroads affords an outlet to pasture or to market, saving losses that to other countries would be calamitous. If not desirable to change flocks for feed, the feed can be shipped to the sheep at reasonable rates and losses avoided. These are some but not all the helps of railroads to sheep raising in the United States.

Wool and Woolens.

We cull the following from the late circular of Justice, Bateman & Co.: The wool market is lightly stocked. The manufacturers in many cases are out of supplies and are afraid to show their anxieties to lay in stock lest prices should stiffen for the new clip. The tone of the market is strong and against buyers.

The London auctions closed on May 3 firm, at an advance of 15 per cent. above the prices of April 1, which were the lowest on record. Last year's supplies were almost totally absorbed, which points to the fact that the consumption has kept pace with the increase of the world's wool supply.

The importations of wool for the nine months ending March 31, 1892, were about 14,158,965 pounds greater than for the corresponding nine months of 1891. This is an increase, measured by weight, of over 14 per cent., but if measured by value, is an increase of less than eight per cent., the increased value being $1,062,462. On the other hand, the decrease in the imports of "manufactures of wool" for the nine months ending March 31, 1892, has been nearly $6,000,000, a decline of nearly 17 per cent. This is one of the gratifying evidences of the working of the McKinley bill, assuming that the falling off in "manufactures of wool" is replaced by an increased home production (of which there is no doubt), a larger consumption of wool in the United States is proven. Imported woolen goods valued at $6,000,000 are equivalent to about 18,000,000 pounds of unwashed wool. Nearly the whole of the American clip of 1891 has gone into consumption, and the most of the increased importations besides. An extensive acquaintance among woolen manufacturers fails to show any who are large importers of clothing wool who are not opposed to free wool. This view of the manufacturers has materially increased since the passage of the Springer Free Wool Bill by the House of Representatives, coupled, as it was, by a cutting off of so much protection on manufactured woolen goods. The manufacturers, with most remarkable unanimity, have arrived at the conclusion that the McKinley Bill is a wise measure for the manufacturer and wool-grower.

Proceedings of the National Dickinson Record Company.

The annual meeting of the National Dickinson Spanish Merino Sheep Register Company occurred at Canton, O., the first Tuesday in June, and was largely attended. The flocks were all represented by proxy or personal appearance of owners. Starting in 1881, this organization has grown and strengthened in popular favor, until to-day 33 States are represented in the company, and in a few years every part of the United States will recognize the value of these sheep. Their mutton qualities, with superb wool, are unassailable acquisitions that command the attention of sheepmen in every region. The history of these sheep is co-equal with any royal productions of the ovine species far or near. Their careful breeding by one competent shepherd for a term of 64 years with a view of eliminating every worthless quality, building stronger the inherent qualities that add value to any breed, has produced a type of sheep unequaled in America for choice wool, stability of character, and feeding qualities that do not fail to meet the wants of considerate breeders or flock-masters. The Record now comprises about 3,000 individual sheep. In a combined way they exactly meet the type of a sheep wanted. The interest in these sheep has steadily gained. Their high standard challenges comparison with that of any other breed, and stands unrivaled in its perfectness. It is but proper to meet the demand of the times by growing fleeces and carcasses in fine-wooled sheep, forever laying aside the dishonest, sluggish, worthless, gum and filth productions—all deceptions in statements of shearing qualities. We deem it of the utmost importance for the world at large to note the present and past high qualities of the Dickinson Merino wools and flocks. The signs of the times indicate a severe drifting away from the original standards and registers. Many old-line Spanish Merino breeders have sailed into new quarters among the fandangle Delaine Registers, setting up business on another score card from the old two-inch stapled Spanish sheep. The reform in standards continues. The modern true excellence of an in-bred Delaine breed of sheep thoroughly established has come to stay, and to rule the markets just in time to save the fine wool industry of the Nation. There must be more among the wrinkley, greasy pelters. Yard breeds can be used to deplete corn cribs and truck patches, but the basis of all flocks is the stability of Merino blood. No loose-jointed, open-membraned catarrhal, shelly, flabby sulks need apply.

The members of the association were a unit on the sentiment of protection. It was considered a crime to entertain the Springer Free Wool Bill; that should be punished at the ballot-box by all patriotic American citizens.

The election: A. C. McDowell was re-elected President; H. G. McDowell was re-elected Secretary and Treasurer; S. S. Cole, Cuba, N. Y., was elected Vice-President; seven Trustees were chosen, viz., A. N. Shriver, Hugh Hammond, H. G. McDowell, R. M. Timons, S. S. Cole, J. H. Ward, H. Enancenberger. Executive Committee: A. N. Shriver, Hugh Hammond, and J. H. Ward. Committee on Pedigree: H. G. McDowell, H. Benton, E. H. Timons. The Secretary was given authority to act for the best interests of the company in connection with the World's Columbian Exposition in 1893, in connection with Hugh Hammond and John Lehman. A special prize was offered by the company of five recorded sheep worth $1,000 for the best written descriptive historical review of all breeds of sheep in the world, including impartial report in detail of such specimens exhibited at the World's Columbian Exposition at Chicago.

An amendment to the by-laws was offered, to be voted on at the annual meeting next year, extending the time of final registration three months, viz., from Oct. 1 to Jan. 1, 1893. After that time the fees to be doubled until June 1, when debar will be established by the passage of this amendment.—H. G. McDowell, Secretary, Canton, O.

Sheep Notes from Ohio.

Editor American Farmer: If I were to suggest how to make sheep raising profitable, I would say to the readers of your valuable paper, feed better! Too many farmers' sheep are poor in the Fall, and start into Winter poor, and remain so, provided they do not die. Too many farmers hold to the opinion that corn is not good for sheep. If they have any oats, the horses must have them. The results are, about the first of March the sheep are in a deplorably weak and debilitated condition. The fight has been all Winter on the basis of "the survival of the strongest." There is a crop of pelts and a few scattering lambs.

Please do not think I say a flock of sheep cannot be Wintered without grain. If the owner has plenty of nice, early-cut clover, or clover and timothy hay, good shelters, plenty of pure water; and, last of all, if "his breath is good for sheep"—as old shepherds put it—the sheep will Winter without grain.

There is a continual rage among sheepmen to cross the different breeds of sheep here in Ohio. This may be well if mutton lambs are wanted, or for lambs to feed and sell at a year old. Some farmers are exercised about getting up a new breed of sheep by crossing. Life is too short to do this. I was talking to one of these ambitious, enterprising men who had crossed his flock with mutton rams for a few years. He said, "if you keep them and shear them there is nothing in it, and you will get left." Another farmer, who has been crossing to get something nice, has a lot of two-year old wethers that I think are the meanest lot of sheep I ever saw. I would suggest to those who are thinking of changing the character of their flocks: Spend a few days visiting the different sheep-raisers, studying the question, learning methods, and noting results.

In conclusion, the lack of proper care and feed causes much of the losses and discouragements among sheep-men.—C. W. Hale.

The Size of Animals (Sheep).

M. Bernardin, Director of the Rambouillet flock, writing of the size of sheep to be chosen, says: "I generally find it is wrong to prefer a large animal to a small one. Merinos being destined to live upon pasturage, if they have a reduced form, are more easily and more surely satisfied in the countries to which they are transported. If its development is inferior as compared with the richness of the pasture, it will find in the abundance a disposition to enlarge, naturally progress, and will be profitable; it will be exposed to no miscalculations. While on the other hand, those of too large a form be chosen they will be exposed to the chances of inability of being satisfied by the resources at its disposal; it will decline, be subject to dangers, give place to deception and a cause of loss. I submit in principle that upon a given extent of pasturage it is impossible to maintain quite as great a weight of animal by adopting subjects of small form as in taking the larger types, and none can contest that small Merinos in large numbers, making together the same weight as the large ones, will furnish more wool each year and less loss."

"It is Dog or Sheep."

Colman's Rural World, under the above head, says: * * * "It is dog or sheep now with the farmers who breed and grow sheep, and if money tells, that is to say, if the farmers wish to make a living, the dog will go—be relegated to the happy hunting grounds of the good and bad dog country of the future. But the farmers will have to do with it as their wives do in house cleaning—hold on and hold fast until the work is done, and that well done and thoroughly.

"The dogs in Missouri will have to go, or sheep breeding will be out of the question. This is not only true of Missouri, but other States. What in the name of common sense people want so many dogs for, is a problem no man has yet determined. There is, however, a fellow-feeling between a man and his dog that is known to no other relationship, and the younger the man, the stronger the relationship. If a hawk comes to one's chicken yard, the owner shoots him without compunction of conscience. If a skunk or other night-prowling villain makes periodical depredations on his chicken house, the owner has only to catch him or get within gun-shot range to kill him at sight."

[This is orthodox. Will the next brother tell us how he feels? Let us arise and sing: "A Charge to Keep I Have."—Ed.]

Comparative Value of Sheep Manure.

Prof. J. P. Roberts, of Cornell University Station, in a serial article on manures in the *Breeder's Gazette*, shows the value per ton of manures produced by various classes of animals: Horses $2.80; sheep, $4; cows, $2.30; swine, $2.25.

Value per 1,000 pounds of live weight of animals per year, computing nitrogen, potash, and phosphoric acid, at commercial values, and ignoring small fractions: Horses, $19; sheep, $38; cows (milch), $29.25; swine, $17.

He says: "It appears to me that this is a conservative estimate."

These figures will be useful to those who are thinking about these things.

He gives also a supposable case as will emphasize the value of the manure produced on many a small farm: Four horses of 1,000 pounds each, 20 cows of 800 pounds each, 50 sheep of 100 pounds each, and 10 pigs 75 pounds each would produce, according to the above modified computation, fertility worth $248.91 in the seven Winter months.

We sheepmen note the 50 sheep in the above would give, viz., 5,000 pounds' weight, multiplied by $38, the value per 1,000 pounds live weight of sheep, would be $190 for the manure alone. No small item of profit to be placed to the credit of the little flock.

"Malignant Epizootic Catarrh."

A Maryland sheep-raiser writes: "A malignant epizootic catarrh has passed over this section, and many sheep have been lost by not knowing the nature of the disease or the proper treatment. I have cured scab, foot-rot, and every other disease which has ever visited our flocks (sheep curs, too), but this disease is more than a match for me. I used every remedy I could think of, or hear of. I treated for various diseases, even the grip; but still they suffered terribly and died.

"The symptons are a thin, glairy discharge from the nose, sometimes streaked with blood, and then the discharges becomes thick, ropy, and offensive. The sheep become weak and unable to rise; no appetite, not even for hot gruels; pulse very high, quick; hot breath, eyes red. After a few days an offensive diarrhea sets in and continues until death. A more favorable symptom is a discharge from the eyes, and the sheep becomes perfectly blind, the eyes becoming white. All that were so affected recovered, and recovered their sight.

"I had better success with vegetable than with mineral tonics that the old authors recommended, such as Randall and others. I found alcohol in sweet milk given twice a day, with condition powders in hot bran mashes, with clean stables and good ventilation, was more successful than all the other remedies combined. When our sheep were sick and dying, and we did not know the cause or cure, we felt the need of a good reliable sheep and wool-growers paper."

[We hope this gentleman will not be offended with us for using his valuable letter in The American Farmer. We shall avail ourselves of the very superior opportunities afforded in this city of consulting with the Bureau of Animal Industry, of the Department of Agriculture, on all veterinary questions that are submitted to us. This Bureau combines the very highest scientific authorities, recognized so throughout the veterinarian profession.—Ed.]

A Standing Banter to the World.

G. B. Bothwell, Breckenridge, Mo., offers to shear 200 Merino ewes of his own breeding with any man, on same terms, in the world.

This banter has been standing unchallenged by anybody for four years. Why? Because nobody thinks they can do it. This offer is not made as a bluff. Mr. Bothwell is a highly-consistent Christian gentleman, believes in good sheep, thinks he has them, and wants to buy better sheep if anybody has them, and will admit his judgment at fault when a competitive test is made. He means plain, friendly business.

THE APIARY.

Hummings.

A Mr. Groh, of Dixon, Ill., will exhibit at the World's Fair four ancient straw hives which were made in Pennsylvania by his grandfather over 100 years ago. They are all well preserved, and will doubtless prove to be great curiosities.

A Cuban correspondent of *Gleanings in Bee-Culture*, not yet 21 years of age, has gotten during the past season 77,000 pounds of honey from his bees. This is surely an excellent showing, and one which must make many of the older apiarists envious.

A correspondent of the *American Bee Journal* says that in Utah the principal pasturage for bees is sweet clover, and that the quality of honey afforded is excellent, and the quantity almost unlimited. Thousands of acres of this crop go to waste each year because there are not enough bees to gather the nectar.

There is lots of money in beekeeping, but the man who succeeds in getting the most out of it is a man of more than usual intelligence, thoughtful, energetic, and original in his habits of thought. All this is indispensable for success with bees, and a careless person, who is irregular in thought and habit, will be a failure.

Have you ever noticed that a colony of bees may be docile and gentle at one time and extremely hostile at another? Bees can be aptly compared to many persons by reason of their changing dispositions. The Italian bees, as a rule, are more gentle than the other varieties, but even they cannot be relied upon to be pleasant at all times.

During late years many excellent honey-gathering bees have been introduced into this country from Cyprus. At the time the Venetians owned this island there were 200,000 hives of bees kept there, but owing to the heavy taxes imposed by the Turks the number is now reduced to 30,000. The natives of this island have the peculiar idea that if they sell any bees, those left behind will be sure to follow the ones which have been disposed of; hence, if a person wishes to purchase 50 queens he must necessarily purchase 50 full colonies in order to get them.

An enterprising correspondent of the *American Bee Journal* suggests the following "oyster-can bee-feeder" as a model of simplicity and cheapness. Take a Langstroth frame and fasten in each end of it an oyster-can, the dimensions of which should be 6¼ x 4⅛ x 1¾, which equals 51 69-256 cubic inches. As one quart contains 57¾ cubic inches, it will be seen that with one of these feeders nearly one-half of a gallon can be fed at a time. To use the feeder the division board and one frame should be taken out and the feeder inserted in its place. By making little holes in the top edge of the cans, and covering the cans with cloths, the ends will hang into the feeder and be soaked in the liquid. The covering serves the double purpose of affording the bees easy access to the food, and a ready means of escape should they happen to fall into the food.

MANY BEES—MUCH HONEY.

How to Procure Large Returns From Single Colonies.

EDITOR AMERICAN FARMER: Several years ago I secured 566 pounds of honey from one colony of bees, and reported the same to several different papers, especially those devoted to bee culture. This was considered a large yield at that time, and is still so considered by those who have not kept posted along the lines of large yields since then, yet many of our best beekeepers believe that it is possible to obtain 1,000 pounds from a single colony; in fact, nearly or quite that amount has been reported by two different individuals, while reports of 600 pounds or more have been quite frequent. However, as some are skeptical on this point of large yields, believing that they are more fallacious than otherwise, perhaps a few words in THE AMERICAN FARMER regarding how it is done will not be amiss. In the Spring of the year above alluded to, I selected an ordinary colony of bees and set it apart for extracted honey. This colony was no better than one-third of my apiary would average, and was not helped in the least from any other colony. I built them up as fast as possible by the plan usually known as "spreading of brood," being very careful that I did not go too fast in the very early part of the season, for at this time there is danger of chilling much brood by this process, unless much care is used. By the time apple trees were in bloom, the queen had brood in 12 frames, and from that source I extracted 16½ pounds. A few days after this, the 12 frames, bees and all, were set into a hive four feet long, and a division board placed at the rear of the combs. Once a week two more empty combs were inserted in the center of the brood nest until the hive contained 20 combs well filled with brood. As white clover was now yielding honey, the hive was filled out with frames of empty combs, which numbered 32. I did not expect that the queen would occupy any of these last 12 combs, but in this I was mistaken, for before white clover was through yielding honey, I found brood in every one of the 32 combs, which, if placed compactly together, was fully equal to 15 frames full of brood. Each frame gave 100 square inches, and each square inch gives 50 worker bees; hence there were 5,000 bees to hatch out of each of these frames every 21 days, or 75,000 from the 15 frames. The average life of the worker bee, in the working season, is 45 days; hence it will be seen that the queen can place two and one-seventh generations of bees on the stage of action, to where one generation dies off. Two and one-seventh times 75,000 equals 160,700, as the number of bees in that hive during basswood bloom. It was a sight worth beholding when they were just starting out for the field in the morning, for they would rush out like an army, and then, later, the entrance would be one living mass surging to and fro. From clover they gave 186 pounds; from basswood 287½; and from buckwheat 76 pounds, making 566 in all.

Now, supposing that instead of securing this large amount of bees in one hive I had paid no attention to them, but had left the bees to take care of themselves, as the most of the doubting ones do, what would I have had? The queen would have only laid moderately, so that by the time the white clover had begun to yield honey they would have had only about from 25,000 to 30,000 bees. At about this time the bees would have swarmed, thus dividing their numbers, while there would have been no laying queen in the hive from which the swarm issued to lay eggs for the basswood and buckwheat workers for nearly or quite three weeks. Beside this, there would, in all probability, have issued one or more after-swarms, thus dividing the bees still more, and defeating the prospect of any honey at all from the old colony; so that were we to call 20,000 bees an ordinary colony, as kept by the majority of beekeepers, we would not be far out of the way. This would give but about 71 pounds per colony had my bees been divided up in that way; so that, in reality, what would be considered by many a big story, when brought down in this way to its proportion according to the number of bees there were in the hive, is nothing very great after all; for no one would call 71 pounds of extracted honey per colony in a good season an exaggerated report. The main point that many of us should learn is, that it is bees which gather honey, not the number of hives which we have standing in the yard. A large colony of bees will do more in proportion than will a small one, and this has very much to do with our working for strong colonies. The outside elements do not have that chilling effect on the hive of a populous colony that they do on a hive with few bees in it. Thus more bees go to the field, and all work to better advantage. The main secret in securing a large yield of honey is to get plenty of bees just at the right time to take advantage of the honey harvest. If gotten too early they are of little use, and if too late they only become consumers instead of producers. Where any person thoroughly understands their locality and works so as to have plenty of bees at the time the honey-producing flowers open, they will have no cause to complain of their yield if these flowers secrete honey. On this one thing depends our success more largely than on anything else connected with the apiary.—G. M. DOOLITTLE, Borodino, N. Y.

Change of Management.

Owing to the continued ill-health of Mr. Thomas G. Newman, the editor and manager of the old-established and widely-known *American Bee Journal*, he has found it necessary to be relieved of the care and labor attendant upon the management of that journal, and has transferred his interests to Mr. George W. York, still continuing, however, to give editorial advice and counsel through the columns of the paper. Mr. Newman has done much during his active career to stimulate an interest in the pursuit of bee-culture, and it is a matter of sincere regret to learn of his retirement from the active field. We wish for the new management the same degree of success that has heretofore attended the publication of the paper.

Orthodox Mahometans look upon silk as being unclean, because it is produced by a worm.

Cheap Fertilizers.

The question of cheap and good fertilizers is such a serious matter to our farmers, that we gladly publish the letter given below, from the well-known Chemical Fertilizer Manufacturers, Messrs. W. S. Powell & Co., Baltimore, Md.

Office of W. S. POWELL & CO.,
CHEMICAL FERTILIZER MANUFACTURERS,
202 to 219 Bowly's Wharf,
BALTIMORE, MD., 1892.

MR. EDITOR:—As you have probably been advised, we are selling to farmers direct Powell's Pure Dissolved South Carolina Bone (high grade, which is valued by the Ohio Agricultural Experiment Station at $25.95 per ton, and W. Va. Station at $24.81 per ton), and is conceded to be the best made, in car load lots of 12 tons and over at $12 a ton, in bags (no drayage), in less quantities $12.50 a ton, and if Potash is wanted with it we only charge 50 cents a ton additional. These fertilizers are dry and in good condition for drilling. While Dissolved South Carolina Bone either alone or combined with Potash often produces good results, our own experiments have proven, as well as the leading statistical records show, that Complete Fertilizers containing all the necessary elements of plant food, Ammonia, Potash, and Available Phosphoric Acid, must be used if good and certain crops are expected, and the land permanently improved. With a desire to assist your readers to get good and cheap complete fertilizers, we suggest the following formula to make two tons of complete fertilizer, as the average wheat grower does not use less than this quantity:

2,000 pounds—one ton Powell's High Grade Pure Dissolved S. C. Bone. (If car load is taken $12 a ton.)	$12 50
520 pounds—two bags (260 pounds each) Powell's Specially Prepared Chemicals	12 00
1,480 pounds—30 bushels of ordinary earth, muck, woods-earth, leached ashes or fine manure, say, costing	2 00
Total	$26 50

4,000 pounds, or two tons of fertilizer, which will cost $13.25 per ton.

This fertilizer, so mixed, will analyze:

Ammonia	1 to 1.50	per ct.
Potash	2 to 2.50	"
Equal to sulphate of potash	4 to 5.00	"
Available phosphoric acid	8 to 9.00	"
Insoluble phosphoric acid	1 to 2.00	"
Total phosphoric acid	9 to 11.00	"
Equal to bone phosphate lime	18 to 22.00	"

Such a fertilizer as is usually sold at $25 a ton and used 300 pounds to the acre. It will be observed by using the above mixture the farmers save the freight on about three-quarters of a ton of fertilizer (that portion represented by the earth), which will average at least in the Central States $2.50 for freight. A comparison of the above analysis with the analysis of any fertilizer now sold in your section will convince you, by using the mixture we recommend above, farmers save even when freight is considered at least $8 a ton, and get a first-class fertilizer for wheat and grass. There is no trouble in mixing, you simply riddle the earth or compost so as to get out stones and other things which will injure the drill, and mix, by first spreading on a space 6x8 feet a layer of compost or earth, then a layer of the Powell's Specially Prepared Chemicals, then a layer of the Powell's Dissolved South Carolina Bone, and repeat until the whole pile is mixed, then cut the pile down, turning it over a couple of times. This compound is ready for use as soon as mixed, but will keep any length of time without losing its fertilizing value. If you have any doubt as to the real value of a fertilizer of the above analysis, refer it to your Agricultural Experiment Station. An extra one per cent. of ammonia will cost $2, and an extra one per cent. of potash will cost $1. Those persons who have not the facilities to get the earth or compost for mixing can use the Dissolved S. C. Bone and Powell's Chemicals mixed together (leaving out the earth), one-third less to the acre.

As a special compliment to you, we will send free to any of your subscribers, postpaid, copy of our book, "Wheat and Grass," if they mention your paper by name.

Respectfully, W. S. POWELL & Co.

WINTERING BEES.

The Best Way is to Follow Nature as Closely as Possible.

EDITOR AMERICAN FARMER: The query we often read in bee periodicals is, When is the right time to take bees out of cellars or repositories? This may be a question of serious importance to some. I have kept bees for the better part of 35 years, and would quit beekeeping if I had to rely upon cellars or repositories. Our Creator never intended that bees should be cared for in that way any more than water should run up a hill or a web-footed fowl roost on a tree or fence. The only true and successful way of Wintering honey bees is to let them remain in their original stands out of doors. I Winter my bees in the Good News Beehive, and have been doing so for the past 10 years or more, and during this entire period my loss has not been more than five per cent.

The Good News Beehive is new in every particular, and to illustrate and describe one in detail would take considerable time. I will commence at the brood chamber, and here I may as well say, do not confound a brood nest as being a brood chamber. A brood nest is composed of movable frames, combs, and living bees, while a brood chamber is the dwelling to put the furniture in. Because a brood chamber be wide and roomy it is no reason that it should be filled with brood combs.

But to resume. The hive is made entirely of one-half inch lumber. The brood chamber has dead air-walls at each end. The bottom is double, with dead-air space, and is nailed to the brood chamber. The air space at the sides is formed by the movable division boards, so as to give plenty of ventilation. The boards are so arranged that one, two, four, eight, 10 or 12 frames can be placed in the brood chamber. The entire hive is 24 inches in hight, 24 inches in width, and 21 inches in length.

In Wintering bees in this hive my plan is to begin preparing for Winter about April 1. At the first overhauling I always select four of the best combs of honey. These four combs I place on the outside of the nest and on the inside of the division boards, first reversing them so as to get the empty parts of the comb filled. When these combs are filled they are taken away and reserved for the bees for their Winter food. In reserving this honey the object is to have refined honey for the bees, and plenty of it, too.

At the close of the honey harvest, and when all surplus honey is removed, about Sept. 1, I commence to reduce the brood nest to five of the best combs. Above this I place the surplus tray with the four combs of honey which I reserved in the Spring. In this way they have all their food given to them at once, and a narrow and tall nest is formed, which gives plenty of pure air. The foul air is driven down by the bees and the fresh air is admitted at the entrance. In preparing bees this early gives them plenty of time to wax everything up air-tight, except under the division boards.

Let us see what we have in this simple, inexpensive arrangement. In my opinion, it is the right way to Winter bees out of doors and on their Summer stands. It is the only proper way to ventilate a hive, and by proper ventilation we do not have any thin, watery honey running out of the combs in Winter. This kind of honey is unripe and is bad food for bees. It is caused by ill-ventilation, and nine-tenths of the bees lost is caused by this same thing. Honey bees do and will stand, any amount of cold if they have pure, ripe honey to keep up the animal heat. Although bees cannot live very long in impure atmosphere, yet 99 out of 100 modern beehives have no means provided for ventilation.

But I digress. The five frames which I leave in the hive are left there for the purpose of allowing the bees to fill with Fall honey. They are permitted to remain there until the next Spring, and if the bees have not consumed it it is collected. The space that is formed by the nest and outer walls of the hive may be filled with shavings or chaff, but I do not think packing at all necessary. Simply spread several thicknesses of paper all around the nest, or an old carpet will do. Leaves may also be used for packing, but they should not be pressed down too hard, as they may prevent the proper ventilation.

The Creator made no mistake when he designed the instinct of the honey bee to store honey for food during the long Winter months. The nearer man can form his movable fixtures in the hive to conform to the natural laws of the honey bee the better. A tall, narrow nest is Nature's way, say what you may. In the Good News Beehive I do not know of a single colony being frozen during my 10 years' experience with them. The instinct of the bees tells them that they must make their home absolutely air-tight around them and above them. Whoever saw a hive waxed air-tight at the base. Bees never do that. While they wax the top and sides they leave the base open for ventilation.

It is breaking the first commandment of the laws of bees to break their sealed top in order to put in chaff cushions or other moisture-absorbing materials. This operation is theory, and generally ends in calamity. The man who first originated that stupid idea did not know as much as an oyster about the habits and requirements of the honey bee.—J. W. TEFFT, care J. D. Wands, 318 Swan street, Buffalo, N. Y.

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Conventions.

The Wabash Valley Bee-Keepers' Association will hold their next Convention at Vincennes, Ind., on Aug. 17, 1892. Frank Vawter, of Vincennes, is Secretary.

The Haldimand Bee-Keepers' Association will hold a Convention at South Cayuga, Ontario, on Aug. 27, 1892. Secretary, E. C. Campbell, Cayuga, Ontario.

SCARLET CLOVER.

The Peculiar Value of this Addition to the List of Crops.

Owing to the many ways in which this crop can be utilized, and the comparative ease with which it can be cultivated, it is gaining great favor among farmers and is destined to become of the greatest value to the progressive agriculturist. This variety of the clover is an annual, and comparing it with the ordinary red clover it is peculiar by reason of the fact that it will flourish on poor soils and will develop during the Fall, Winter, and Spring. The Delaware College Agricultural Experiment Station have endeavored to point out in Bulletin No. 16 the benefits accruing from the use of this crop. It is shown that it serves the manifold purposes of eradicating weeds, protecting falling fruit in orchards, reducing expenses in cultivating orchards, and is available for silage, soiling, haymaking, seed-production, bee food, etc.

Scarlet clover, sometimes called crimson clover, is a Winter plant, and in this fact lies its most peculiar value. In addition to gathering a great amount of nitrogen, it possesses the power of preventing friable soils from washing during the long Winter months, which is a great help to the farmer, as there are many millions of acres naked, leaching and washing during the time of the ripening of one crop and the time for the plowing for another, which necessarily entails a great loss. It withstands the freezing and thawing of Winter better than red clover, and on the whole is more easily grown, more certain, and more productive.

Splendid results have been obtained when cotton land has been sown with scarlet clover. It not only kept the soil from wasting and washing during its period of nakedness, but as a fertilizer it improved the yield of the crop. The failure of red clover seeding may be cheaply and easily remedied by seeding the wheat stubble with scarlet clover seed. In this case it is claimed by some that neither plowing nor harrowing is necessary.

It has been shown by practical experience that "takes" of this clover can be secured from seedings in apple, peach, and pear orchards where the seed is sown soon after the last cultivation of the trees. The quantity of seed to be used, of course, depends upon the aims of the sower. It averages between five and 15 pounds per acre. In orchards and standing corn a serviceable machine is to be found in the Cahoon broadcaster. The seed may also be sown from horseback. A useful field for this clover is in an orchard where the land is poor and will admit of a large amount of green matter being plowed under. The sod can be turned in such a manner that many of the blossoms will remain above ground, and in time the seed ripens, being scattered by harrowing the land.

For haymaking, scarlet clover is exceptionally fine, analyses having shown that samples dried with special care have rivalled bran. Several farmers have been known to successfully cure large crops of this clover as early as the first weeks of May. Horses and cows eat this with the greatest relish, and appear to enjoy it more than red clover or timothy. As a food for bees it has been found to be excellent, and parties who have allowed their bees to circulate among it have reported that their hives contain much more honey than usual.

Circular letters addressed to 60 Delaware farmers elicited replies from 44, showing an aggregate of 2,343 acres of this crop, or an average of 53 acres to each man, and the general opinion was that its spread throughout the State would materially aid in an advance toward prosperity.

Not in Favor.

He—Why did you ask me to be sure to not upset the boat? Are you afraid of the water?

She—No; but I've heard that when a man rescues a girl from drowning he is sure to marry her.—*New York Evening Sun.*

The acreage of tobacco in Ohio is not so great as last year, and the plants have been late getting into the ground.

THE DAIRY.

Skimmings.

By milking a cow gently, more fat globules are given off and a better quality of milk procured.

Corn has a tendency to produce fat rather than milk, but oilmeal is better than cornmeal to quickly fatten old cows or steers.

Probably one of the best uses for dehorned cattle is that they can come closer together in manger without injuring each other.

From elaborate experiments carried out at the Alabama station the conclusions are that no change of color was observable in the butter from feeding either cottonseed or cottonseed meal.

It is estimated that during the busy season in London, when the fashionable set are not away, £2,000 worth of cream and £30,000 worth of milk are consumed daily.

Ireland will send to the World's Fair a large number of the famous Kerry cows, and visitors will be enabled to see real Irish milkmaids and butter-makers at work. This will undoubtedly form an interesting exhibit.

Reports from the Cheese Committee of the Home and Foreign Produce Exchange show that the quality of American cheese sent to the London market is deteriorating, while that sent from Canada shows a marked improvement.

The Government of Ontario has appointed a commission to obtain information as to the practice of dehorning cattle, and to consider the reasons for and against this practice, with a view to determining whether or not it should be sanctioned.

Many of the dairy schools of England have artificial udders made of India rubber for the boys and girls to practice on. A facetious exchange remarks that the cows have cause to be thankful that the children have something as tough as rubber to do their first pulling on.

Oats are not much thought of as food for cows, but barley is preferred. The principal objection to oats is the large quantity of husk they have and the light color of the butter made. But if they were ground with peas, no doubt the mixed food would be better than either of the grains mentioned alone.

As a healthful food for cows, cottonseed meal has been tried and found to be excellent. It should not be used as an all-around feed, as cows will lose flesh and appetite on any single diet of clear meal. By feeding each cow with about a half bushel of hulls, two quarts of meal, and two quarts of wheat shorts twice a day, appetite will be increased and beneficial results accrue.

If you have a poor pasture which affords but scant cropping for your stock, break up half of it and plant corn in it, using a liberal quantity of fertilizer to produce as heavy a yield of fodder as may be. This will support five or 10 times as much stock as the land previously could, and as soon as the crop is ready for use and feeding of it has begun the other half might be plowed and sown with Fall rye, using three bushels of seed to the acre.

The purchaser of butter may easily test this matter for himself. Pure butter has a peculiar texture, which appears on cutting and breaking a thin slice as a granular or waxy fracture. This is most apparent in the best quality of butter, but is characteristic of all pure butter. But any mixture of oil of any kind gives a greasy texture to the butter, and the granular and waxy appearance is absent. The butter is also soft, and on a warm day the difference is easily perceived.

English Prices of Butter.

The following schedule shows the comparative valuations of butter from various countries in the English market:

Countries.	Comparative Prices.
France	$101 50
Denmark	99 30
Sweden	96 00
Germany	95 60
Holland	94 60
Canada	72 00
Other countries (Ireland chiefly).	90 00
United States	70 60

A New Dodge.

Another shrewd scheme is being worked to catch the farmer's hard-earned dollars. In a section in which there is some attention paid to dairying glib talkers will appear who represent themselves as agents for a dairy supply company located in some large city. These men are anxious to pour wealth into the pockets of the farmers by building for them and equipping ready for operations a co-operative creamery. Of course their company has unusual facilities for the work of which it makes a specialty, and will put up regular an establishment which will make money like a mint for the co-operators for the trifling sum of $5,000. Where these have been put up they have not cost to exceed $2,000, leaving a snug profit of $3,000 for the glib-tongued agents. Co-operative creameries are a good thing, where they are a good thing, but it will be much better for farmers contemplating such an institution to keep the matter in their own hands. Send a committee of their number to study a similar institution which is in successful operation, and copy it with improvements.

GILT-EDGE BUTTER.

The Way Farmer Talcott Makes it and Sends it to His Customers.

EDITOR AMERICAN FARMER: In last issue I promised to give my method of the manufacture of farm butter. The lesson is not intended for scientific creamery work, because the farm is not supplied with creamery power or tools to work with; but we must and can have perfect butter, better than is possible for a creamery to make. They have the demoralization of quality of gathered cream to contend with or the hauling of dairy milk long distances for separator work. Having secured the cows best suited to the work, supplied them with an abundance of the most economical feed, as I described, we must now secure the milk in proper condition for the cream. Milking barns or stables should be provided, where cows will not be interfered with during the milking operation, and men or boys ought always, if possible, do this work. It needs strength of grip, hands, and arms to milk from five to 20 cows twice a day, and is more than women ought to do. They must be milked clean. The last gill of strippings contains more butter fat than the first quart of the almost skim milk a cow will give; besides, if they are not milked clean every time, and regularly, too, they soon dry up and you waste money. The milk should be removed from the stable quickly as possible after milking, and strained through four to six thicknesses of thin cotton cloth. These can be folded together, so no stray cow hairs will be left in the milk. I use deep-setting covered tin cans for creaming milk; in fact, all vessels for the milk-handling should be made of tin, then washed clean and scalded every time they are used. The warm milk should be allowed to stand open in the milk cans from 30 to 40 minutes, and the can set in cold water to expel all animal odor from the milk. Next put on the cover tight and set the can in a plank water-box filled with cold water all the time, or ice water, if you can secure it without great cost. With me the ice house is filled every Winter. My farm creamery is within the reach of every farmer. It consists of a plain, rough board house, 12 by 16 feet, three feet slant to roof, and all one way; 12 feet high at the eaves, and 15 feet high the other side; ice room 12 by 12 feet, and it holds 600 cakes of ice 16 inches square and eight inches thick, and two men built it in two days at a cost of less than $15. The cream room is four feet by 12 feet, and the plank water-box is 17 inches deep, 17 inches wide, and eight feet long, and holds all the milk cans necessary for from a 20 to 30-cow dairy. If you cannot have ice, then use cold water either from spring or well.

In Tennessee I made beautiful butter from setting milk cans in flowing spring water at 60 to 62 degrees. Cream of this nature and so secured will make perfect butter; 24 hours' setting of milk in cold water will secure every particle of cream from the milk before it gets sour, cheaper and better in quality than any separator ever does it. Separators are useful in factories or in hot climates where cold setting is impossible, but for the general use of farmers they are needless and too expensive. Cream must be ripened before churning, or you are very apt to waste in churning if you attempt to do it with sweet cream, and a majority of customers will not like sweet cream butter. The ripening of cream is a very easy job for farm dairies. All there is to do is to allow the cream can and cream to stand in a warm place, say, 65 to 80 degrees, and occasionally stir it all well together. It should all be well stirred up together every time you add a fresh skimming of cream to what you may have on hand, and when you have a sufficient amount for a churning then ripen it, as above stated, letting it remain in the warm place until it thickens and begins to smell sour, when you must then remove it to some cool place. My cream room in the ice house is the best place I have for it, and I let it cool down in this hot Summer weather to 58 or 60 degrees before I churn it. I secure this cool condition nights and churn early in the morning. I made as beautiful butter this morning as the world ever saw from the pure Guernsey cream, as above stated. I cannot afford to let this quality of cream go into a co-operative creamery, because my cows will earn me far more money per head if I make the butter at home myself. I don't give you any second-hand information about this business. I do the work individually all the time, and I feed my sweet, fresh buttermilk and sweet skim milk to calves and pigs. Farmers who will not do this work right had better patronize the creameries. It is a sin to make poor, white, salvy, bitter butter.

I use a square-box churn, but a Davis swing churn or a barrel churn—any churn that will churn by concussion—will do the same quality of work of mine. It requires from 25 to 35 minutes to churn from 10 to 20 pounds of butter in my churn. Just as soon as it all comes to butter in such a churn it will be in little round pellets about the size of bird shot, and you must then stop churning, open the churn, and draw off the buttermilk. Then add a large pailful of clear, cold water, close the churn, and turn it very slowly four or five times around, taking care never to gather the butter into a solid mass. Let it stand 10 or 15 minutes, then open the churn and draw off this first wash water with the buttermilk for feed purposes and pour in the second pailful of cold water. Revolve the churn several times, as before, then open it and let the butter remain in this cold water until hard enough to salt. I let mine stay in the churn one hour to-day, and the mercury was up to 82° outdoors. I like to remove the butter from the churn with a skimmer-ladle, and let it drain on my butter-worker table before I salt it and weigh my butter, and then add one ounce of salt to pound of butter and press it into the butter with the fluted roller of my butter-worker; or, if I have a small mass, I do it with a ladle in a butter-bowl, but press in the salt, not squeeze it in, with the hands or wipe it in, so as to break the grain of the butter; but keep turning it over and pressing in the salt until you know it is done evenly, and it is then perfection and ready for packing into little jars or butter tubs and never be meddled with again. Any second working of butter injures its quality, makes it salvy and puts it in condition for cheap store butter. It cannot be salted in the churn so exact as I state it, nor as easy and perfect a job done. If you must have prints, rolls, or bolts of butter, you will have to let the butter stand longer after salting and get cold enough to do this second-hand nonsense work. One quart stone jars cost 3 cents apiece here, and hold 2½ pounds butter; two quart jars cost 4 cents apiece, and hold five pounds butter; one-gallon jars cost 7 cents, and hold 10 pounds of butter. I use these always in hot weather, and my customers like it best that way, and they also can keep it for daily use in better condition if so put up. In this locality our fresh green grass furnishes the perfect standard color of butter, and later in the season, and all through the Winter, when the color from this grass feed fades, you could never tell the change of season from the color of butter that I make. I use the artificial color then. This article is getting too lengthy. I must make another chapter of it.—H. TALCOTT.

THE ORCHARD.

Cullings.

Wood ashes and bone meal are specific fertilizers for vines and trees.

Stone fruits, such as the cherry, peach, and plum, need very little pruning.

A quart of copperas to the rod, scattered around the grapevines, will prevent rot.

Let the evergreens grow around the farmhouse. They serve as a nesting place for many insect-eating birds.

Fruit will not keep where the temperature varies. This should be low, and there must be fresh air, without a current passing over the fruit.

If your grapevines have been neglected and untrained, it is well to cut them down to the ground in the Fall, allowing one or two new shoots to spring up, thus obtaining a good new vine to work on.

The lady apple is highly esteemed for the table, on account of its small size and its beautiful red color on a yellow ground. It also keeps well, and can be found in good condition from early Winter until May or June.

It is the habit of the apple borer to make his way into the trunk of the tree just below the ground. Therefore it is a good plan to mound about each tree in the early Spring, and later, to rake away the earth. If they are in the tree they can then be easily destroyed.

After a young orchard has begun to grow attention should be given to the shape which the heads assume. A symmetrical form can be preserved by rubbing off the needless shoots when an inch or two long, as this is much easier than to cut off limbs with a saw after they have grown large.

When trees are first set out they are naturally weak, and if they are placed in the way of a strong wind, the chances are that many of them will be blown down. For this reason, it is obvious that the trees should be protected. If they are sheltered by a building, well and good, but if they are in the direct path of the prevailing winds, a windbreak should be erected.

The Maltese blood orange is said to be one of the choicest and most highly-flavored of all the varieties of this fruit. It is of medium size, slightly oval in shape, and has a delicate aroma. Its pulp is in some instances as red as the flesh of the beet, but this color varies in different sections. In California it is deeper than in Florida and on the Coast, where it sometimes has but a trace of red, while along the Mediterranean it is found most pronounced. This orange had its origin in Malta centuries ago.

A new idea has been suggested; that of protecting the rights of the horticulturist as well as the mechanic. We give the latter the right to manufacture his inventions without competition that he may realize his just profits, whereas the originator of a new fruit gets no profit for his labors. There are many who would work in the interests of horticulture if they were paid for it, where few will work for nothing. The horticulturist should ask for an equal footing with inventors, and there would be as great an advancement in the one line, perhaps, as in the other.

The Fruit Bark Bettle.

New specimens of fruit destroyers are constantly being discovered. The latest is the fruit bark beetle, an immigrant from Europe. It is said to be the worst of all the vast army of insects with which the orchardists have to combat. So far it has attacked the apple, pear, peach, and plum, and it goes about its destructive work in a methodical and premeditative sort of way, which slowly but eventually kills the tree.

First it bores straight into the bark, then makes a burrow lengthwise, and lays its eggs inside the borings. When these hatch the larvæ eat the wood under the bark, and when grown go on with the work of boring, sometimes deep into the sap wood. Here they change into the chrysalis state, and finally emerge through holes in the bark full grown. When all this has happened a man begins to wonder what is the matter with his tree, and attributes its damaged state to blight, which, by the way, is a term often covering many inexplicable and unknown diseases.

Grafting the Grape.

Generally the grafting of the grape is unsatisfactory, among professionals as well as amateurs. A correspondent to the *Orchard and Garden* has had such success with a Delaware grafted on a wild grape stock that he gives the method for the benefit of others.

When the first few leaves have formed and the sap is flowing, select the place on the young vine, where you wish to graft. This is best between two joints. Then wrap a cord tightly around the vine, which will somewhat prevent the return of the sap. Two cuts are made, one downward, as at *a*, and another upward, *b*, and these must be about an inch in length. Select a scion which has a natural curve, and is a trifle longer than the distance between the cuts. Cut the ends wedge-shaped, and insert carefully, so that the bark is in contact. Then bind firmly the scion to the stock, as *c*, and if this is securely done, no binding is needed at *a* and *b*, but these points must be covered with grafting wax. The bud will soon begin to show at d. Then by degrees all the shoots not belonging to the scion must be removed.

In the Summer all the wood above *b* must be cut off, and in the Fall that above *a* on the stock and above *c* on the scion. It is said that if the stock is a strong grower and has grafted on it a Delaware or Jessica, the growth in the short space of three months will be surprising.

Asthma The African Kola Plant, discovered in Congo, West Africa, is Nature's Sure Cure for Asthma. **Cure Guaranteed or No Pay.** Export Office, 1164 Broadway, New York. For **Large Trial Case, FREE** by Mail, address KOLA IMPORTING CO., 223 Vine St., Cincinnati, Ohio.

FRUIT GROWERS IN GEORGIA.

Meeting of the American Nurserymen's Association.

The regular annual meeting of the American Nurserymen's Association was held in Atlanta, Ga., June 1 and 2, and was followed by excursions to different parts of the State, which is rapidly becoming one of the leading States in the Union in the production of fruits and truck. Census returns show that Georgia now leads all the Southern States in the production of table grapes and wine. The watermelon product is immense, the crop of 1890 loading 8,000 cars, out of which the railroads alone made $50 for every $1 they would have made with the same amount of land devoted to cotton.

The Governor of the State, Commissioner of Agriculture, and Mayor of Atlanta gave the visitors cordial welcome in the large and handsome capitol building.

Many interesting papers were read and addresses delivered. Until we commence to look into the details of the various branches of an agriculture, few of us realize how the figures run up into millions. Let us look at a few items represented in this gathering of those who raise the baby trees and plants that go out to all our 4,750,000 farms to make them beautiful and productive in orchard, vineyard, and garden. There are in the United States 4,510 nurseries, valued at $41,978,855, and occupying 172,206 acres of land, with an invested capital of $52,425,669, and giving employment to 45,657 men, 2,279 women, and 14,200 animals; using in the propagating and cultivation of trees and plants $990,606 worth of implements. The grand total of trees and plants produced in a single year amounts to 3,386,855,778, of which 518,016,612 are fruit trees, 685,603,396 grapevines and small fruits, and the balance nut, deciduous, and evergreen trees, hardy shrubs, and roses. The largest acreage is devoted to the production of young apple trees, viz., 20,232 acres, numbering 240,570,666 young trees, giving an average of 11,890 per acre, while plum, pear, and peach have, respectively, 7,826, 6,854, and 3,357 acres, producing 88,494,367, 77,223,402, and 49,887,894 young trees.

After the close of the regular sessions a party of 101 took train for Fort Valley, Houston County, Ga., just 105 miles southeast of Atlanta, to look on the rapidly-developing fruit interests of that portion of the State.

Fort Valley is a pleasant little city of 2,500 inhabitants, situated with the surrounding country upon a plateau 700 feet above the sea and Gulf of Mexico. By reason of its elevation fruit blossoms escape late frosts, when they are killed on the lower levels further South. The soil is of the same character as the best peach growing and trucking soils of New Jersey and Delaware. In the one County of Houston are now growing in orchards over 1,000,000 peach trees, and preparations are being made for large additional planting. We saw one orchard of 101,000 trees, planted by J. H. Hale, the noted peach-grower of Connecticut, the rows a mile and a quarter long in one direction. He has 200,000 young trees growing in nursery besides; also, 2,500,000 young Marianna plum, one of the best budding stocks for the peach. Another orchard has 80,000 peach trees. One young orchard of pears covered 100 acres, 10,000 trees, and of only one variety—the Keiffer.

Several incorporated companies of northern fruit-growers own acres by the thousand, and are constantly extending their plantations. One of these companies has a capital of $50,000, another of $25,000. Peaches were being shipped North at the time of our visit, the first going May 31; variety, the Alexander. They were going by car loads the first week in June. The crates used hold six four-quart baskets, and cost 25 cents each. The express charges to New York or Philadelphia, $1.25 per crate. One grower had his return June 3 for some shipped June 1, and they had sold for $6 and $7 per crate.

The most profitable peach of the County is the Elberta, the only one of value out of 14,000 seedlings raised by one grower. We noted some fine vineyards producing large crops of fruit, so far entirely free from the rats and mildews that annoy the grower in many other sections. Early apples, blackberries, plums, and huckleberries were already ripe and abundant; flowers everywhere in bloom; micky birds singing; the heat not oppressive; the people cheerful and happy—those of the North and South, some of whom having now lived as neighbors for years, all united in developing the "New South."

I have promised the editor of THE AMERICAN FARMER to write up that big peach farm of Hale's, the largest in the world, planted and owned by one individual. Will have pictures taken and engravings made that will, more plainly than words, show one of the industries of what is rightly called "The Empire State of the South."—MORTIMER WHITEHEAD.

THE WOOL-GROWERS SATISFIED.

Judge Wm. Lawrence, President of the Ohio Wool-Growers' Association, on the Nomination of President Harrison.

On the evening of the renomination of President Harrison by the Minneapolis Convention, Judge Lawrence sent a telegram to the Ohio *State Journal* as follows:

BELLEFONTAINE, O., June 10.

Harrison is all wool and a yard wide. No shoddy. No free-wool reciprocity. Let a million wool-growers rejoice.

Meeting.

The third exhibition of the New York and New England Agricultural and Industrial Society will be held at the Albany. (N. Y.) fair grounds during the week of Sept. 19, 1892. Premium lists and other information may be obtained by addressing the Secretary, J. C. Cuyler, 445 Broadway, Albany, N. Y.

The maple sugar industry of Vermont is steadily increasing. In 1850 the production was 6,349,357 pounds and 5,997 gallons of sirup, and the census of 1889 shows the production for that year to have begn 14,123,921 pounds of sugar and 218,252 gallons of sirup, valued at $1,248,856. Great improvement in the quality of the article produced has been apparent.

THE GARDEN.

Pluckings.

Ground for raspberries cannot be too rich.

July is the best time to plant cucumbers for pickles.

Cure onions out of doors for awhile before putting them away.

Don't fail to set out some Savoy cabbages. They are the best late ones grown.

Be careful of letting young raspberries and blackberries bear too heavily at first. They can easily be ruined by this.

It is not too early to put in such turnips as the Long White French. These cannot be surpassed for table use.

Good seed for all farm crops should be the very first consideration. It is essential to success, and without it the crops will be poor.

By making two late sowings of tomatoes, one the first of June and another two or three weeks later, an abundance can be had until frost.

The decomposition of weeds and other vegetable matter in the soil being a slow process of burning, has a tendency to warm the soil.

It pays to let toads remain in the garden, as they are fond of and eat almost every variety of insect known, even digesting with perfect ease the disgusting potato-bug.

It is found that the roots of peas accumulate nitrogen in the soil, and this accounts for the rank growth of weeds after the peas are off. The weeds feed on the nitrogen.

When the early crops are used up they should be replaced immediately by something else. Let a crop of snap beans follow the early peas, and let these in turn be followed by other crops.

Early varieties of sugar corn, so popular in the North, are of little value south of the Potomac. Corn must be acclimated to the latitude, and it is useless to plant seed from Northern gardens in Southern soil.

The grapevine flea-beetles often cause great injury to the vines by eating out the buds and devouring the blossoms as they appear. A good way to destroy them is to spray the vines with London purple, one pound to 200 gallons of water.

To have a full supply at Midsummer, it is better to raise plants as early as they can be grown without glass, and set them in a fertile moist land. Those raised from cuttings are later and less productive than those grown from seed.

The collard is a tall-growing cabbage, which is usually passed over by the catalogs of Northern seedsmen, but much grown in the South. When bent down and covered with earth in the Winter it bleaches very tender, and is not to be despised as a table vegetable.

Horseradish roots are cut up into pieces four inches long for planting. These are planted in the soil, with two inches of soil over them—of course, right end up. It is scarcely possible to get rid of this plant, as the small pieces of root left in the ground will make new plants.

Within the past two years there has been an attempt in Kansas to cultivate two varieties of Japanese bean. These are the Soy and the Adzuki, the mungo of India. Their endurance of our climate has been given severe tests, and they give great promise of usefulness. These beans are important factors in Japanese diet.

There is much confusion in the nomenclature of the sweet potato. The "Peabody" and "Early Red" are almost the same. "Bahamas," "Yams," and "Southern Queen" are alike. "Norton Yams" and "Buckskins" are also identical. "Delaware" and "New Jersey Nansemond" are synonyms, while "Barbadoes" are the same as the "Talman Spanish."

A stocky growth, with plenty of side branches, is best for raspberries. This is produced by stopping upward growth and nipping the extreme ends when the canes get to be two and a half or three feet high. Blackcap raspberries bend over, and their canes propagate by the tips touching the soil and taking root. By judicious nipping of the ends early in the season, numerous side branches are produced, each of which will produce a first-rate tip plant, which is the only kind of blackcap that should be used for planting.

A new agricultural industry, and one which bids fair to become of the greatest importance, is that of raising calla lilies, the roots of which are edible. They resemble in appearance the common Irish tuber, and are so like the potato in taste that it is often a difficult matter to distinguish between the two. In preparing them for eating they must first be boiled, to destroy certain pungent properties. Then they may be roasted, baked, or cooked to suit the fancy. A large number of Florida farmers have commenced the cultivation of this crop, the swampy land affording an excellent field for its growth.

The Gooseberry.

This fruit is but little known and little appreciated in the United States, and few people really know how a ripe gooseberry looks. The quality grown here is inferior. Owing to the long spells of dry weather which usually follow our abundant Spring rains, few care to attempt the cultivation of foreign varieties, for when the soil is dry and the atmosphere moist they are sure to be attacked by mildew. Spraying with potassium sulphide, however, is a cure for the mildew, and ought to aid in restoring them to favor.

The Dutch were the first to cultivate the gooseberry successfully, and some say that it received its name because first used as a sauce for the goose. Pryor says the name comes from the German kreutzbeere, and the Swedish krusbar, meaning "cross-berry" and "frizzleberry." Elwanger & Barry have recently introduced an American seedling of the English type. It is said to be strong, robust, and so far has never mildewed. The fruit is of a large size, oval in shape, and far superior to the little green berries sold in our markets, and used only for cooking.

Wisconsin tobacco is growing into high repute for binder purposes.

EUROPEAN POTATOES.

Discussion of the Blight and Methods of Prevention.

PARIS, June 4, 1892.

EDITOR AMERICAN FARMER: At what might be called the "Potato Congress," recently held at Vienna, Dr. Boehm dealt with tuber maladies. The one acutely interesting to farmers is the *phythophora infestans*—that parasitical mushroom, analagous to the mildew, which attacks the vine. This parasite kills the tissue, the rapidity of destruction depending on moisture and temperature. If the skin of the potato be not ruptured by insects or snails, it will resist contamination from surrounding rotten tubers. A potato affected with the *phythophora* either produces no plant or a sound plant. It is an error to suppose that the parasite passes the Winter in the tuber, and so regains the field. Nothing exact is known about the manner of the hibernation of the mushroom disease germ; we only know it ceases to develop at freezing point.

Prof. Lirard, whose specialty is to combat the *phythophora*, draws attention to be prepared with the copper solution to green wash the foliage, or strictly the leafage, of the potato plant at the end of June or in the early days of July, when the mushroom puts in an appearance. Last year, out of 82 fields attacked, 73 were saved by employing the leaf wash, and the remaining nine would have been equally fortunate had the instructions been scrupulously followed. Plus 14 tons of potatoes per acre harvested, instead of seven. The blue vitriol and lime wash cost only 10 francs per acre; 150 gallons of the solution per acre suffice, and any of the shower-distributing machines will suit. When carbonate soda is employed along with the copperas for the preparation of the *bouillie*, care should be taken that the carbonate be not adulterated with sulphate of soda under the fraudulent title of "mixed crystals." The latter destroy the efficacy of the copperas. No variety of tuber is proof against the *phythophora*.

The great extension that the industrial cultivation of the potato is assuming renders all exact knowledge on the subject timely. Dr. Liersberg has studied for years the employment of artificial manures in the raising of potatoes. He concludes that on light soils, adequately provided with humus, fertilizers can dispense with farmyard manure in potato culture. But the nature of the fertilizer must be studied. The potato exacts large supplies of nitrogen in the soluble form; the same remark applies to phosphoric acid. The potato plant is a large consumer of potash, but dislikes the direct application of this salt. A nitrate and a superphosphate never fail to tell beneficially on the potato crop. When the soil is very rich in humus, and even of a turfy nature, the powdered slag can profitably replace the superphosphate. Dr. Liersberg prefers the placing of the fertilizer in the hole where the seed tuber is to be deposited, covering the artificial manure with a little earth by means of the foot, so as to prevent its direct contact with the seed. It is remarked that as the number of varieties of potatoes increase, their apple or seed-bearing power declines. Very few varieties, those of an early nature especially, produce apples. This infecundity is due to the flowers, which impregnate themselves, generally lacking pollen to effect fecundity, and in case of insects not conveying such, the pollen must be deposited artificially from other stamina.—J. H. THOMAS.

The "Harlequin" Cabbage-Bug.

An insect which is more than usually destructive to plant life is the "harlequin" cabbage-bug, so called by reason of its multifarious colors. This insect attacks with tenacity the cabbage, turnip, radish, and other plants of this species. It was first noticed in Texas about 20 years ago, and since that time it has been gradually working its way eastward, until now the New England States are threatened with its invasion. Belonging to the suctorial class, it is not affected by arsenites, and it would probably not be affected by a kerosene emulsion. Among the several plans for its destruction mentioned by a writer for the *Cultivator and Country Gentleman* are the following: "Sprinkle the vines affected with water of as high a temperature as the plants will bear. Pluck leaves from the plants and spread them on the ground. The bugs will retire beneath these on cold nights and may be trapped in the morning. Burn the waste leaves, stalks, and weeds in the Autumn, in this way destroying many of the adult insects which pass the Winter on the stalks and leaves. This insect develops rapidly, and every effort should be made to prevent it from making its advance into new territory.

BUREAU OF INFORMATION.

G. O. Brockfeld, Blackshear, Ga.—The State of Georgia originated in a colony authorized by George II., and the first settlement of which was made at Savannah in 1733. The objects of the colony, which were stated in the royal warrant, were:

1. To assist in the defense of the Province of Carolina by interposing a bulwark between it and the Spanish in the Floridas, and the Creek Indians.

2. To provide a home for "decayed gentlemen" and poor debtors of England.

3. To provide a refuge for the persecuted Protestants of the Continent of Europe—mainly Germans.

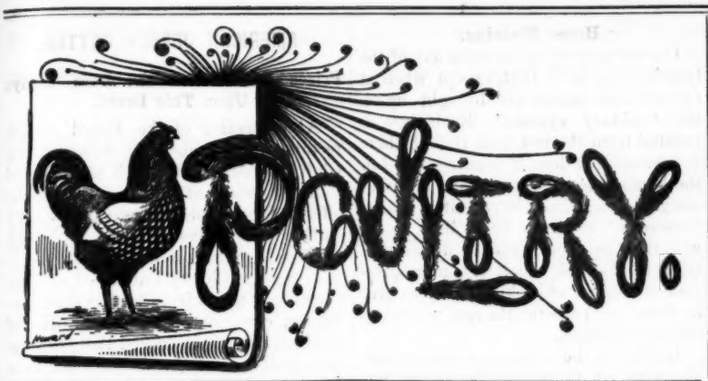
4. To promote the Christianization and civilization of the Indians.

The lands granted to it were those lying between the Savannah and the Altamaha Rivers.

B. F. Gaines, Connersville, Ind.—You make the mistake that has cost other sanguine inventors, or would-be inventors, many years of trial and countless thousands of dollars. Nothing can be made of the fiber of the milkweed but a cheap adulterant for other fibers. It is too trashy and weak for any substantial fabric.

Tom P. Morgan, Helena, Ark.—The progenitor of all the Morgan stock was "Justine Morgan," of Vermont, a small, black, handsome horse, with a characteristic head, such as is one of the chief points about his descendants—small, well-shaped, broad in the forehead, muzzle square, and eye bright and intelligent. No other horse is believed to have quite as much brains as the Morgans.

Levi H. Jones, Fairmont, W. Va.—We havn't any faith in nostrums or washes of any kind for the hair; but it is said that a good tonic for the hair is of salt water, a teaspoonful of salt to a pint of water, applied to the hair two or three times a week. The effect at the end of a month will be surprising. At least, this will not do any harm, even if it does no good, which is not the case with hair invigorators generally. Besides, you don't have to pay $1 a bottle for it.



Cacklings.

From the condition of his poultry the owner can be judged.

Remember, if your fowls have proper food, feather-eating will be an unknown thing to them.

We believe it is better to isolate all sick birds. It is the surest way to check disease.

As an egg contains 84 per cent. of water, it is quite evident that the fowls should have access to an abundant supply.

Do you ever think of cleaning the poultry-yard? A filthy run is an excellent place for the germination of disease.

It is not very well to have the chickens on the roost and make the ducks and geese stand under them. Better it is to provide quarters for them alone.

A hen cannot secure enough lime in her grain food to form the shell of an egg. If broken oyster shells are liberally supplied you will have no more soft-shell eggs.

It may be a little trouble to place dropping-boards in the hen house, but the time saved in cleaning the house when they are put up will more than pay for twice the trouble.

Guineas are an excellent help to farmers. A small flock will forage over a good-sized farm and keep the injurious insects at bay. It would be well for farmers to keep a flock for this purpose alone.

Clover hay makes excellent food for poultry. It furnishes, in addition to other elements, 20 pounds of lime in every 1,000 pounds of hay. Green clover has but little less than five pounds to every 1,000 pounds.

In their habits fowls are omniverous; that is, they eat all kinds of food. The whole three kingdoms into which matter is divided comprises their natural food, namely, animal, vegetable, and mineral. Therefore, it is the best policy to see that they are well supplied with all of these.

Perches.

Many people make a great mistake, when building houses, by placing the perches in all conceivable directions. The placing of the perches in all directions, however, is not the mistake. When the roosts are placed thus, the object generally is to utilize space, and in following up this object some perches are placed near the floor, while others may just barely afford the fowls space enough to roost between the perch and the roof of the house. This is where the mistake comes in.

Have you ever watched your fowls while they are preparing to roost? If you have, you could not fail to see that all of them were anxious to get on the top perch. After the fowls have selected the place upon which they would settle for the night, the observing poultry-raiser could not but notice how they are packed on the highest perch, while the lowest perch does not have a single one on it. The intermediate, that is, those between the highest and lowest perches, would have fowls on them which could not possibly secure room on the uppermost one.

This is a fault which should be remedied. The number of birds to a house is limited, to prevent overcrowding; yet it is overcrowding in its worst form to have a roost packed with fowls. We all know the evil effects of overcrowding, and the clearer we steer from it the better. The only way of preventing this crowding on the perches is to have the perches all on the same level. The fowls will then have no choice, and will accept the change. Even though the perches do take up more room than when arranged in a haphazard way, it should not bother the owner of the fowls.

Separate the Fowls.

It is a great evil to allow the young chickens to run with the old fowls. This may not be so bad where the fowls have a large range, but it is especially so where the fowls are confined. It is better to have the chicks separated from the older birds. The results would give greater satisfaction. The hens are continually pecking the young chickens. The writer has seen young chicks whose necks were naked, the feathers having been picked out by the hens. This is certainly injurious. An old hen may be able to have her neck bare, being hardy and strong, but a growing chick needs all the vitality possible in order to meet the demands of nature, and consequently the loss of these feathers must be a drawback. If it is impossible to give a separate run to each, the young and old chickens; this evil can be somewhat remedied by separating the feed, so that it will be impossible for the young chicks to be driven away by the older fowls.

Another and probably greater evil of allowing the fowls to mingle is the danger of the young chicks not getting enough food. The young birds cannot eat as fast as the old ones, and even if unmolested by them there is a chance that all do not get their fill. But when they are subjected to the tyranny of the older birds there is a still greater chance of their not being able to get enough to eat. If this is the case, the young chick, if it ever matures, will not be as plump and as large as the other chickens, but it will be stumped. It will thus be seen that if the fowls are grown for market purposes, the young chicks run the chance of not laying on as much flesh when allowed to mingle with the old hens as when fed by themselves. As everything is taken into consideration, the intelligent poultry-raiser overcomes this obstacle by separating them.

A "Five-dollar" House.

EDITOR AMERICAN FARMER: I send you herewith a description of what I call my "five-dollar house." It cost but little over $4, yet for convenience I call it a "five-dollar" one. The house was built by myself in one day, and I must confess that I used great economy in planning it. The house is eight feet long, five feet wide, and six feet high in the rear and five feet high in front. The roof has a pitch of one foot, and the house has a southern exposure.

THE HOUSE.

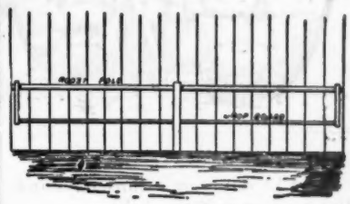
Not counting my labor, the cost of the house was as follows:

10-14 foot scrub pine, one foot wide	$2 10
4-12 " " " " " "	75
2-16 " scantling	32
1 window sash	50
18 feet tar-paper	25
2 yards wire netting	18
2 pounds nails	5
1 pair hinges	10
Total	$4 28

In constructing the building I first cut the scantlings in half and set them accurately and strongly. I then took five of the 14 foot scrub pine boards and cut eight feet off of each of them. These I nailed horizontally in front of the house. The five pieces, six feet in length, which I had left, I put up vertically and they boarded in one side. I took the remainder of the 14-foot boards, cut them exactly as I did the others, and they formed the roof and other side. The roof I nailed on the sides, and thus did away with a good deal of extra scantling. The four 12-foot boards I cut and nailed vertically at the rear of the buiding, and securely fastened them to the roof. For the door I took the entire length of two of the side pieces, and swung them on a pair of hinges.

In the southeast corner of the building I cut a hole 12 inches high by eight wide. This I made as a passage way for the fowls, and out of a piece of wood which I had left over I made a cover which slid down in its place in grooves. My window sash was three feet square, and I placed it in the front of the house, so that it would slide backward and forth.

The roosts I made in two parts of four feet each, and placed them in grooves so that they could be easily taken out. One foot below these I placed my dropping-boards—two of them, each the same length as the roosts. Under the dropping-boards are the nests. These were



SECTIONAL VIEW.

made of the two-inch wire netting and as deep as the amount of wire will permit. The nests are made by tacking the wire on a plank and then covering the rough end with another board to prevent the sharp ends of the wire from hurting the hens. The nest is partly built in the ground and filled to the floor level with dust. Tobacco stems and straw complete it. The tar paper, which is a yard wide, is tacked to the roof.

THE NEST.

The boards cost $1.50 per 100 feet, and are so rough that if well whitewashed will afford no hiding place for lice, as the little holes will be filled with lime. The house I whitewashed inside and out, including the ceiling. It will conveniently hold 20 fowls, and the cost per head of constructing it is less than 25 cents. I hope you will be able to reproduce the rough sketches which I have made, as it might help a good many to more fully understand the construction of the building.

My claims for this house are: First, it is economical and cheap. Second, it is weather-tight. Third, it is light and airy, and, fourth, it is adapted for those who intend starting in the poultry business.—W. J. F.

A Bunch of "Haves."

Have you used the whitewash brush freely?

Have you examined your young chicks for lice?

Have you examined the nests?

Have you cleaned your poultry house lately?

Have you supplied your fowls with green food?

Have you given plenty of fresh, pure water?

Have you kerosened your perches?

Have you fed food which contains the elements that enter into the composition of the egg?

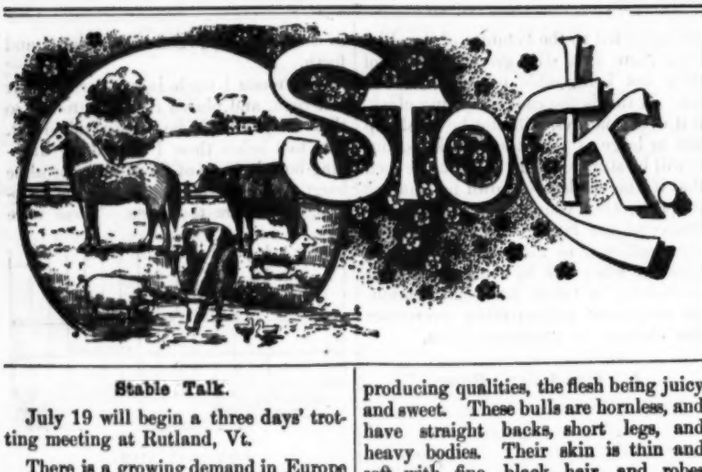
Have you looked after the general health of your fowls?

Have you kept your fowls busy?

Have you provided dust baths?

Have you properly sheltered your fowls?

Have you taken means to destroy all the animals which kill the poultry?



Stable Talk.

July 19 will begin a three days' trotting meeting at Rutland, Vt.

There is a growing demand in Europe for high-class American trotters.

Linseed meal given with the rations to a horse will serve to make his coat sleek.

Green Mountain Maid, foaled in 1862, and who died in 1888, was the dam of the greatest number of 2:30 performers in the United States, having eight sons and daughters in that list.

The presence of large nostrils in an animal is indicative of good lung power and the free use of it, and shows that the animal has pure blood and is possessed of great vitality and vigor.

The Granite City Trotting Club, of Barre, Vt., will give a three days' trotting meeting at Tilton, N. H., beginning July 12. The popular horseman, Harry Lowe, will officiate as starting judge. Entries close July 1.

An English writer says that horse colic is cured in his country by applying to the belly and sides of the animal a horse cloth or woolen rug, wrung out of boiling water, and covering with a blanket, to retain the heat.

A man has been sent to Italy by John A. Logan, jr., and Chauncey Andrews, to endeavor to locate and purchase the horse Atlantic, 2:18½, which was sold to Italians for $17,000 five years ago. Forty thousand dollars will be paid for the animal if found.

Interest in trotters is developing in North Carolina. A two-days' trotting meeting will open at Raleigh Aug. 17, with liberal purses for all classes. In the evening of the first day a meeting will be held for the purpose of organizing a State Breeders' Association.

Perhaps the safest and best way to feed salt to stock is to have a section in each feeding-box laid aside for a lump of rock salt and keep it before the animal all the time. It is very seldom that a horse or any other animal will eat too much salt if it is always kept in their sight and reach.

Owners of farm horses commit a great wrong in compelling their animals to wear shoes of a heavy make. Where an animal has to plod 15 or 20 miles a day, the lifting of heavy shoes will serve to tire him out much sooner than if he had light, steel shoes, or, even better, none at all. Shoes may be entirely dispensed with where the land to be traversed contains few or no stones.

The Galloways are exceedingly hardy, and are noted for their excellent beef-producing qualities, the flesh being juicy and sweet. These bulls are hornless, and have straight backs, short legs, and heavy bodies. Their skin is thin and soft, with fine, black hair, and robes made from it almost equal those made from the buffalo skin.

The merciful man is merciful to his beast these hot days. Hats and parasols, wet sponges and green leaves on horses' heads help much to secure satisfactory work and prolong the animal's usefulness. Another good thing is to sponge the horses down every evening, and the stable kept clean and free from irritating odors.

The Jersey bull Champion of America, 1567, was dropped April, 17, 1873. He was a solid brown in color, with full black points. He was bred in England, brought to this country, and died in 1877. He leaves to his credit 184 registered calves, 76 bulls, and 108 heifers. Of his sons three have tested daughters. Twenty daughters are tested and three are dams of tested cows.—*Orange Judd Farmer.*

Breed from the best is an injunction often heard. Of course this must be accepted as sound teaching, but one need not conclude that following this instruction will always bring out the results desired. Exceptionally choice animals are exceedingly difficult to produce, even from sire and dam selected from what are considered the best. This is true of all classes af animals alike. As we breed from the best, however, we get nearer to a high average of quality, and therein is the reward.—*Maine Farmer.*

The June issue of the *Western Agriculturist and Live Stock Journal* contains an illustration of the Aberdeen-Angus steer, Black Prince, which took the grand prize at the World's Fair at Paris in 1878. This steer was particularly noticeable by reason of its short legs, fine bone, and excellent beef characteristics. The awarding of the prize to this steer was the means of bringing this breed to the notice of the breeders of the United States, and in the course of a few years hundreds of them had been imported to cross with our stock.

Horses in London.

It has been estimated that 25,000 horses are employed in the metropolitan carrying trade in the city of London; that their value is $6,250,000, and the cost for food alone is $4,000,000. A rule prevails for foraging the horses on six cents an inch per week—that is, a horse costs as many shillings a week as it stands hands high.

Horse Training.

One peculiarity of the economy of the training stable is that, except when at exercise, the horses are brought up on the "solitary system." Each box is isolated from the rest, and though there is a connecting door, it is only opened at the hours when grooming and cleaning are going on; thus, the inmates cannot "converse," as every horse likes to do, with their neighbors, and so derive that relief from ennui which the mere presence of another of its kind seems to give to these sympathetic though undemonstrative creatures.

Routine is the essence of the system. The work set them may be varied, but the horses are like an "eight" in training; so much so, indeed, that each horse has its particular place in the string when at exercise. Sunday is the only day that differs from the others; for then the horses do not go out. One result is that they become exceedingly "bored" with training and its consequent isolation. This probably accounts for the extraordinary fondness which some of them develop for other animals which are allowed to share their box. Lanercost, who was poisoned at Ascot in 1842, had a dog for his inseparable companion, and there is a story that this dog was once stolen as a precaution preliminary to "nobbling" the horse, but that the dog escaped and found its way back to the horse's box.

Roughly speaking, work in the stables begins at daybreak, earlier in Winter, later in Summer, when the horses are groomed and fed, and the boys get their breakfast. The "first string" are then ridden out to exercise, and are made to walk, gallop, or canter for two and a half or three hours. They are then thoroughly groomed and fed again; after which they are left perfectly quiet and alone, while the second string go out. These horses are generally neither so numerous nor so important as the first set, and at 5 o'clock all are for the third time groomed and fed.—*The Spectator.*

The Race Horses of England.

With the constantly-increasing interest in the pastime, or more properly speaking, business of horse-racing in England, it is not strange that the number of animals included in the racing class should be great or that the quality of the animals should be fine. It has been estimated that there are at the present time 10,000 horses of the class above referred to, with an average value of £300 apiece, or about $1,460. It is further estimated that the cost of keeping these animals averages £1,105,000, or about $5,370,300 per year.

The riders of the more prominent horses obtain good fees for their services, it being no uncommon thing for the rider of a Derby winner to receive £1,000. On one occasion over £5,000 was paid to the rider of a winning horse, £3,000 being given by the owner of the colt, and the balance by parties who had won extensively on the race. Many of the jockeys are able to accumulate large fortunes, and numerous presents, other than money, such as dog-carts, yachts, watches, rings, etc., are constantly being received by them.

A variety of food is indispensable to successful stock-raising.

AMERICAN JERSEY CATTLE.

Prizes Offered for the Best Essays Upon This Breed.

At a meeting of the Board of Directors of the American Jersey Cattle Club, held May 4, 1892, it was directed that 50 prizes of $25 each should be offered for acceptable essays on Jersey cattle. This competition is to be governed by the following rules:

1. Subject, Jersey Cattle.—Anything pertaining to their history, value, usefulness, care, treatment, peculiarities of product, etc. It is desired that these essays shall cover as far as possible all the points on which present owners, intending buyers, persons who do not but who could profitably keep Jerseys, consumers of milk, butter, etc., would naturally desire information.

2. Size.—No essay shall contain less than 600 nor more than 900 words.

3. Time.—All essays must be submitted on or before Sept. 1, 1892. They may be sent earlier, and the Committee request as prompt attention as is practicable.

4. Conditions.—All essays submitted are to be the property of the American Jersey Cattle Club, regardless of prizes. No essay will be awarded a prize unless it is considered by the Committee to merit publication.

5. Competitors.—Forty of the prizes are open to competition by men. Ten of the prizes are open to competition by women, and, in view of the great interest taken in Jersey cattle by women, it is confidently expected that many will submit valuable essays.

6. Awards.—Prizes will be awarded and paid within 60 days after contest closes.

7. Committee.—Well-known gentleman will act as judges in this competition.

8. Suggestions to New Writers.—Write plainly and only on one side of the paper. Write simply, just as you would talk. Don't criticize or attack other breeds. There is more of value to be said about the Jersey than can be put in any one essay. Don't try to cover too many points, take one part of the subject and make it complete. If you wish to write more, put it in another essay. Competitors may submit as many essays as they choose.

Should you desire circulars for your friends, they will be sent on application.

Address all communications on this subject to the American Jersey Cattle Club, No. 1 Broadway, New York, N. Y.

Speculative Tobacco Growers.

Amoug the tobacco growers of Massachusetts and Connecticut a common custom is to agree upon a price for which their crop is to be sold before it is planted. This species of gambling is mostly in favor of the buyer, as a clause is inserted in the agreement whereby he is not compelled to take the stock if either the quality or price is against him, whereas if the crop be of a fine quality he can insist upon its delivery at the price agreed upon.

FRUIT EVAPORATOR
THE ZIMMERMAN
The Standard Machine
Different sizes and prices. Illustrated Catalogue free.
THE BLYMYER IRON WORKS CO., Cincinnati, O.

AGRICULTURAL APPROPRIATION BILL.

Consideration in the Senate—More Liberal Allowances for Scientific Work—Aid for Electrical Experiments—More Bombarding the Clouds—Discussion of the Monthly Crop Reports.

Thursday, June 24, the Agricultural Appropriation Bill came up in the Senate for consideration. That body was found to be much more liberal in its temper toward this class of expenditure than the House had been.

The first item was the pay of the force in the Division of Forestry of the Agricultural Department, and this was increased from $7,800 to $8,300, the Chief Clerk's salary being raised from $2,000 to $2,500.

The next amendment was to increase from $5,000 to $15,000 the sum given to the Secretary of Agriculture to "continue investigations concerning the feasibility of extending the demands of foreign markets for agricultural products of the United States."

Then the Senate proposed to add to the bill $5,000 to enable the Secretary to collect information as to the best methods of irrigation.

Senator Warren, of Wyoming, moved to increase this to $10,000. Senator Stewart, of Nevada, strongly supported this. He pointed out how ignorant the people of the arid districts were as to the best methods of irrigation. They came from rainfall sections, and had no idea of the proper management of irrigation. They would get too much water in the ground or put it on at the wrong time, or when it was too cold, and destroy their root crops and fruit trees. In the course of his remarks the Senator made the rather astonishing statement that, taking the whole world, more agriculture is carried on by artificial irrigation than by rainfall. Naturally, after this, the Senators did not hesitate to increase the sum to be given for studying irrigation to $10,000.

Then came up the vexed question of repressing Statistician Dodge's reflections and opinions in the monthly crop reports issued by the Agricultural Department. Senator Vest, voicing the views of the St. Louis Merchants' Exchange and Cotton Exchange, which have been having a hot quarrel with the Statistician, was anxious that the Senate should adopt Representative Hatch's provision, adopted by the House, that these reports should be "strictly confined to the percentage totals by States, and full total, without comment or argument." The Committe had reported an amendment striking out the words "strictly," and "without comment or argument." Senator Vest was strongly adverse to this amendment. He complained that the Statistician had injected into the reports his personal and political opinions, and these were made use of by speculators to bull or bear the markets. A statement of this kind, which was outside the facts, had had a most serious effect upon the cotton market.

Senator Allison did not want to go so far in restricting the Statistician. Explanations were necessary in regard to unusual changes noted in the reports, and he wanted these made by the Statistician, but supervised and authorized by the Secretary of Agriculture. Senator Cullom, of Illinois, supported Senator Allison's views, and Senator Cockrell those of Senator Vest.

Senator George of Mississippi, said the Agricultural Department was now conducted better than it ever had been within his knowledge, and he was unwilling by any vote to imply censure upon it.

The matter was laid over temporarily, and the Senate proceeded to increase the item for the Division of Entomology from $17,800 to $22,800, and that for Vegetable Pathology from $15,000 to $20,000. This will enable the Department to continue its investigation of the orange blight in Florida.

The appropriation of $5,000 for fiber investigation was made to "continue" instead of "conclude" the investigations into methods of raising, propagating, cleansing, decorating, etc., fibrous plants.

For the Forestry Division, and to enable it collect and distribute valuable economic forest-tree seeds and plants, $20,000 was given, instead of $8,000 by the House.

Amendments were adopted authorizing the Secretary of Agriculture to certify to the Secretary of the Treasury when next cattle and hides can be imported from different countries without danger to domestic animals, and to determine and certify to the Secretary of the Treasury "what are recognized breeds, and pure-bred animals."

The Secretary of Agriculture was authorized to carry on experiments in sugar-cane production on reclaimed swamp lands in California.

Senator Gordon, of Georgia, moved to increase the allowance for the Division of Botany from $25,000 to $35,000. He said this work was particularly important in the cotton sections, where much attention was now being given to the raising of grasses. He finally modified his amendment to $30,000, which was adopted.

Senator Peffer, of Kansas, moved to appropriate $2,500 for experiments in applying electricity as a motive power on farms. In reply to questions from other Senators, he stated that this was a matter in which the people of Kansas have great interest. The results attained, so far, show that an ordinary plow had been moved a short distance in an ordinary Kansas soil. The amendment was modified so as to prohibit any of those engaged in the experiment from taking out patents, and in this form it was adopted.

Senator Chandler offered an amendment transferring the Geological Survey and the Fish Commission to the Agricultural Department. Senator Allison opposed this, because it was a matter which should be brought up on separate bills, which could have fuller discussion than would be possible in this form, and made the point of order that it was independent legislation. The Chair sustained him.

Coming to the item of $10,000 for continuing the experiments for producing rainfall by explosions, Senator Chandler asked the Senator from Texas for information as to the results of those already made. From what he could learn, the whole matter was a ridiculous waste of money.

Senator Coke said he had little information outside of the general reports. Gentlemen who were present at the experiments had informed him that no rain had been produced.

Senator Allison said it was a matter of doubt whether any rain had been produced by the experiments last year, and the greater part of the information which he had received was to the effect that the trials were failures. Assistant Secretary Willits, under whose charge the experiments were, said that they had not met the hopes of those interested in them. Yet there were over 800,000 square miles of partially arid land in the country, and any scheme which promised to aid in making these fertile should be encouraged. There was enough success attained in the experiments already made to justify the appropriation of $10,000 for continuing them in view of the great interests at stake.

The item was therefore retained.

The consideration of the Monthly Crop Reports was resumed. Senator George opposed the amendment to insert the words "strictly" and "without comment or argument." It was absolutely necessary at times to put in explanations of great changes in order to make the reports properly understood.

Senator Vest persisted in his support of the amendment. It would not prevent the Statistician from making comparisons from month to month, or setting forth natural causes for changes, but it would prevent him from injecting any tariff discussions into the reports. He read protests from the Merchants' Exchange and Cotton Exchange, of St. Louis, to the effect that the statements of the Statistician had caused an immense decline in the values of wheat and cotton.

After a prolonged discussion it was agreed, in order that the appropriation bills might be forwarded, to report the amendments as far as concurred in, and let that relating to the crop reports be reserved. Therefore, the item in the bill referring to these stands until then as the Senate Committee reported it, as follows:

That the monthly crop report issued on the 10th day of each month shall be confined to a statement of the percentage totals by States and full total, and that it shall be submitted to the Secretary of Agriculture.

Baled hay at $9 a ton and upward pays better than a crop of grain. It costs less to put upon the market and takes less valuable constituents from the soil than grain.

Nebraska.

EDITOR AMERICAN FARMER: On the 15th inst. we had a very severe rain, hail, and wind storm, which destroyed the crops in this vicinity to such an extent that the farmers are feeling quite poor. W. Phillips, a neighbor of mine, lost entirely 100 acres of corn; my own was about three-fourths destroyed, while the country round about cannot turn out more than half a crop.—J. M. STRATTON, Dorsey, Neb.

The Dandelion.

As an addition to the beauty of the garden, what can be more pleasing to the sight than a bed of well-cultivated dandelions? These flowers surpass in beauty many others which are given more prominence in the gardens of today. In France the natives have learned to use this plant as a vegetable, and it has risen to be an article of importance in the Paris market. Delectable salad can be made by using whole plants, the leaves being blanched by covering them with pots, as sea-kale is treated.

FOR SALE,
WANTS, EXCHANGES, ETC.

THE AMERICAN FARMER wants to become the medium of free communication of farmers with one another, and by which they can state their wants and have them supplied, the same as city people do in the daily papers. We have therefore established this column for the express use of subscribers to the paper. No others will be allowed access to it. The rates for advertising in it will be merely nominal—one cent a word each insertion. No "wants," "exchange," "for sale," or similar notices will be inserted more than twice. If desired oftener, it must go into the regular advertising columns at the usual rates. All our readers who want situations, or to employ help, or to exchange farming implements, stock, seeds, etc., are invited to use the column freely.

☞ In replying to these advertisements, please mention that they were seen in THE AMERICAN FARMER, of Washington, D. C.

TERMS: One cent a word each insertion. No notice to be inserted more than twice. No notice accepted at these rates except from subscribers to the paper.

FOR SALE—One No. 3 Appleton M'f'g Co. Prize Pulley Mill; one Cyclone Corn and Cob Crusher, same make. Price $40, f. o. b., for cash, for both mills. E. D. HEINEMANN, Inanda P. O., Buncombe Co., N. C.

WANT TO BUY—Six good Jerseys, three to six years old. Address, with description, P. O. Box W, Holyoke, Mass.

JERSEY BULL—Prince of Orchard Home. Four years old; Eurotas blood. Gentle. Only sold to prevent inbreeding. Address, for pedigree and price, J. SPENCER HOSFORD, Kinderhook, N. Y.

FOR SALE—Three (3) thoroughbred registered Jersey bulls, one year old. Apply to JAS. D. BUCKWALTER, Douglassville, Berks Co., Pa.

WANTED—A married man, sober, industrious, and handy, to work on nursery and farm, and to board men. References required. ARTHUR J. COLLINS, Moorestown, N. J.

WANTED—Two Protestant young men, good milkers, understanding cattle and farm work; also driving oxen. References required, Address MURRAY, Station D, New York City.

WANTED—Good man to take care of horses, stallions, carriages, etc. Wages according to services rendered, starting with $20 per month and board. A. C. BURGESS, Carleton Place, Ont., Canada.

SITUATION WANTED—A married man, no family, thoroughly understands poultry-raising in all branches; also capable of taking full charge of dairy, desires situation. Address P. O. BOX 200, Dobbs Ferry, N. Y.

SITUATION WANTED—As superintendent, manager, or assistant on a stock or large farm, by a middle-aged man of education and refinement. Writes a good hand, and is acquainted with book-keeping. Understands management of steam engine and boiler, windmills, pumps, and hydraulic rams, and is a good general mechanic. References, several banks and numerous business men. Address F. R., P. O. Box 194, Washington City, D. C.

FOR SALE—To close an estate. Farm of 40 acres, highly-cultivated land, in Kennebec County, Me. Stocked with 80 head of thoroughbred Southdown sheep. Ten minutes' walk from post-office, in city of 8,000 inhabitants. For further particulars, address GEO. K. BOUTELLE, Waterville, Me.

FOR SALE, Etc.

WANTED—Man and Wife. Man to do general farm work, wife to do general housework. To reliable parties a permanent home and good wages. F. L. PAYNE, Bailey's Cross Roads, Fairfax Co., Va.

WANTED—A Married Farmer for a Dairy and Truck Farm near Old Point Comfort, Va. He must be a good milker, if necessary. For an acceptable man liberal arrangements will be made for the future. Address, M. C. A., Hampton, Va.

AN AMERICAN, aged 45, good education, 15 years' experience with cattle—Jerseys, Ayrshires, Holsteins, and native—would like a situation with some party who not only takes a pleasure and pride in his cattle, but also has an eye to profit. Best of references as regards sobriety, industry, honesty, and ability. Address, W. PARKTON, Baltimore County, Md.

FOR EXCHANGE—A Six-octave Gilbert Piano for fresh milch cows. 711 Madison street, Topeka, Kan.

WANTED—A Second-hand Chain-fed Broom-corn Scraper. S. G. JOHNSTON, Warren, Sherman County, Kan.

FOR SALE—160-acre farm at a bargain. One-third cash, balance long time if desired. Four-room house, plenty of timber, living water, 45 acres in crops, close to town. With residence in same. Price $12 per acre. Also quarter section of grass land. Some stock and implements cheap. Address BOX 148, Toronto, Kan.

FOR SALE VERY CHEAP—A two-horse tread-power thrashing machine. Both power and separator mounted on trucks. Only used two years on farm. It is in complete running order. Some extras and tally-box. Will thrash 300 bushels of wheat and 600 bushels of oats in reasonably good grain in one day; thrashes all kinds of grain, millet, and timothy. The power alone is worth all I ask for the entire outfit for many uses on the farm. It will twice pay for itself in one season. Will give time, with approved security, if desired. CRAWFORD MOORE, Tonganoxie, Kan.

32 Shropshire sheep for sale. C. A. WILEY, Yoder, Kan.

A RARE BARGAIN—For sale a first-class hotel in a No. 1 manufacturing town, close to Chicago; full of people the year round. The right party can make big money. Would accept land in part payment. SANDWICH M'F'G CO., Kansas City, Mo.

JERSEY CATTLE—On account of my age I will sell my A. J. C. C. herd of cows and heifers. First-class cattle of the Signal and St. Lambert strains. Pure-bred St. Lambert bull at the head of herd. Address S. S. MATTHEWS, Box 116, Leavenworth, Kan.

FOR SALE—Five young full-blood Holstein-Friesian bulls, from three to 18 months old. Offered at prices that farmers can pay. Also a few choice cows and heifers, thoroughbred. This is a good opportunity to get good animals at reasonable cost. Write for particulars to J. GAMBLE, Elyria, Kan.

FOR SALE—Young Holstein-Friesian bulls, good individuals, choice breeding. Also a three-year-old bull that I am done using; dam imported. Prices reasonable; cash or note; time to suit purchaser. M. H. ALBERTY, Cherokee, Kan.

FOR SALE—Eggs from first-class Light Brahmas, $1 per setting, or $1.50 for 30 eggs, and a few fine roosters yet at $1. MRS. N. VAN BUSKIRK, Blue Mound, Kan.

500,000 SWEET POTATO PLANTS—To sell during May and June, 1892. Nine best kinds. Inquire of N. H. PIXLEY, Wamego, Kan.

EGGS—Choice Light Brahmas, $1 per 13; $1.50 per 26. Wm. PLUMMER, Osage City, Kan.

FOR SALE CHEAP ON EASY TERMS—One of the nicest located and best improved farms in eastern Kansas. Also a full section under cultivation. For particulars and terms address the owner, C. H. PRATE, Humboldt, Kan.

WANTED—Horses or cattle in exchange for farm lands. Desirable homes cheap. GERALD PIERCE, Bismarck, N. D.

FOR SALE—Improved farm of 302 acres near Charlottesville, Va., 2½ miles from depot. Only $4,000; one-quarter cash, balance to suit. Splendid location for pedigreed stock, dairy, or fruit farm. Would take half payment in young breeding stock. Address GERALD McCARTHY, N. C. Experiment Station, Raleigh, N. C.

FOR SALE OR RENT—To responsible parties only, a few choice quarter or half-section farms in one of the best portions of the celebrated Valley of the Red River of the North. Terms cash or crop payments. For particulars address W. HINCKLE SMITH, Amenia, Cass County, N. D.

PERCHERON MARES—Having sold my farm I will sell at less than the cost of importing them 12 of the very finest three to five-year-old imported Percheron mares. A big bargain for someone. Must be sold at once. C. V. HOLDER, Bloomington, Ill.

FOR SALE—Registered Victoria Shorthorn Bull. LLOYD Z. JONES, Galva, Ill.

WANTED—An American man of experience to feed and care for 50 cows. Address, stating experience, wages required, whether married or single. BOX 87, Fayville, Mass.

I HAVE LEFT UNSOLD ten (10) high grade ewes, Cotswold, with lambs by their side. Ewes will weigh from 100 to 140 pounds each, lambs from 20 to 40 pounds. I will sell the lot for $70, delivered on board of cars at station. The first check takes the lot or any part of them; $7 for ewe and lamb, all young, two to four years old, and all perfectly healthy and in good store condition. Address all letters to B. A. WHITCOMB, Wilkinsville, Mass.

FOR SALE—Two very good farms, 62 and 14 acres, respectively. Excellent crops and buildings. Price $4,000 and $1,800. Address Dr. JOHN P. HILLEGASS, Pennsburg, Montgomery Co., Pa.

FOR SALE—A good farm and mill site in Spottsylvania County, Va., including 300 acres of choice pine, oak, poplar, and other timber. Exceptional opportunity for enterprising party with some capital. For full description and plan of property address H. C. WOODMAN, Box 2872, Boston, Mass.

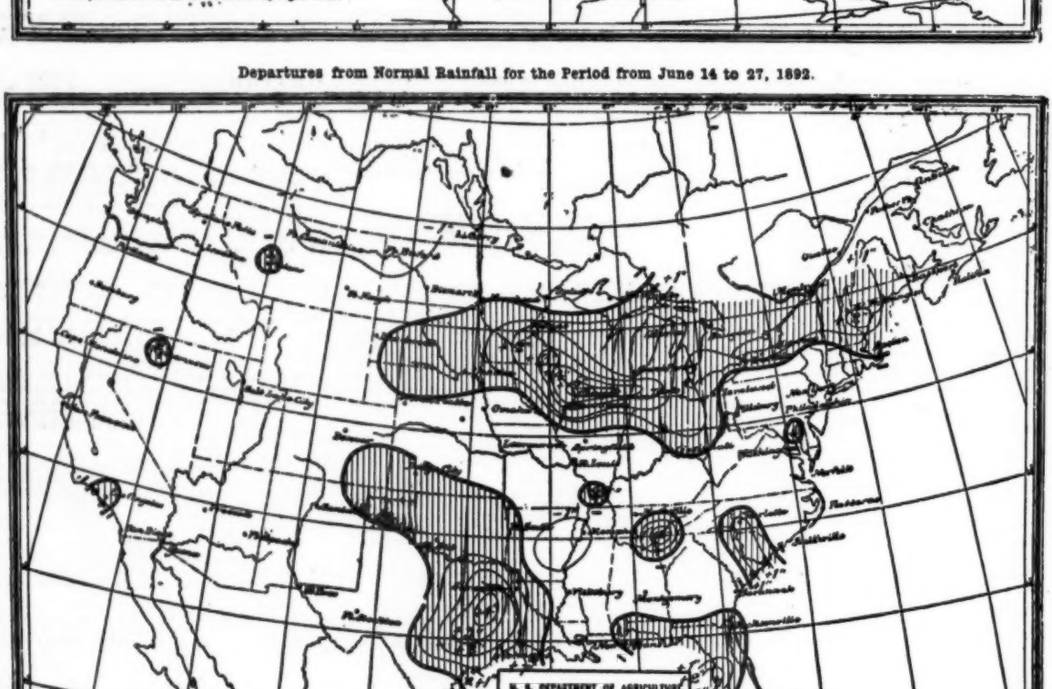
U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Weather-Crop Bulletin for the Period from June 14 to 27, 1892.

Departures from Normal Temperature for the Period from June 14 to 27, 1892

U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
Shaded portions show excess (+), and unshaded portions deficiency (—) of temperature.
Figures show mean daily excess (+) or deficiency (—) of temperature over areas bounded by light lines.

Departures from Normal Rainfall for the Period from June 14 to 27, 1892.


U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
Shaded portions show excess (+), and unshaded portions deficiency (—) in rainfall.
Figures show, in inches, amount of excess or deficiency of rainfall over areas bounded by light lines.

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU,
WASHINGTON, D. C., July 1, 1892.

TEMPERATURE.

During the two weeks ending June 27 the weather has been warmer than usual along the Atlantic Coast from Massachusetts to the Carolinas, and thence westward to the central Mississippi Valley, the excess of temperature ranging from three to six degrees per day in the Middle Atlantic States, Ohio Valley, and Lower Lake Region. From central Texas westward to Arizona and Utah and on the North Pacific Coast it was also warmer than usual, but the excess of temperature was not so great as in the districts before named.

It has been cooler than usual along the Gulf Coast, in Northern New England, and from Minnesota and Iowa westward to the Rocky Mountains, but the deficiencies in temperature have been very slight, except over the last-named region, where they have ranged from three to seven degrees below the normal, the most marked departures occurring in Nebraska and the Dakotas. In southern California it has also been decidedly cooler than usual, there being a deficiency amounting to six degrees at Los Angeles, but elsewhere in southern California the deficiency was less marked, and in the northern part of the State there was a slight excess.

RAINFALL.

During the two weeks above mentioned the rainfall has been very heavy in the Upper Mississippi Valley, Upper Lake Region, and northeastern Texas. In Illinois and in adjacent portions of Iowa and Wisconsin and in Southern Minnesota from six to eight inches of actual rainfall has occurred, giving a very marked excess over the normal, and largely increasing the seasonal excess which previously existed in that region. In northern Florida and southern Georgia a prolonged drouth has been succeeded by more than an average rainfall. From the Lower Missouri and Central Mississippi Valleys eastward to the Atlantic Coast the rainfall was in general deficient, although in some localities it has been above the average. Over the Eastern Rocky Mountain Slope and on the Pacific Coast the rainfall has been less than usual, and in the last-named district no rain has fallen to the southward of Washington, except a slight sprinkle in the vicinity of Los Angeles, Cal.

In Massachusetts.

EDITOR AMERICAN FARMER: The season in Massachusetts is a little later than last year; have had frequent rains and some very hot weather, and most crops are doing well. Haying is now under way, and a good crop will be put into the barns; pastures in good shape, and cattle doing well.

Early produce has sold fairly well and at good prices.

Caterpillars are abundant, and many orchards have been eaten so badly that they look as if a fire had run through them.

Prospect for all kinds of fruit good.—W. H. BARTLETT, Woburn, Mass.

The best pastures even do not contain all that animals need.

THE MARKETS.

COTTON PROSPECTS.

Already there is in sight an American cotton crop of 8,900,000 bales, which promises a total crop for the season of not far from 9,250,000 bales, presuming upon fair receipts in August. The indications now are that the area planted this year will be nearly sufficient for a season's supply of cotton to meet the ordinary wants of manufacturers, without drawing very materially upon the surplus stock that will be carried over. Notwithstanding the extraordinary low prices for cotton that have prevailed since last Fall, the world over, which in the ordinary course of events would stimulate consumption, the consumption of cotton in Great Britain and on the Continent has been thus far this year 1,000 bales a week less than for the corresponding time last year. The consumption of cotton in Europe for the seven months ending May 31, 1892, was 5,810,000 bales, against 5,951,000 bales last year for the same period. The fact, however, that spinners' stocks in Europe are 300,000 bales less this year, at this time, than last year, that is, less by more than 10 days' consumption, may have an influence on the demand in the near future not at present anticipated.—*Boston Commercial Bulletin.*

GENERAL NOTES.

The news from Russia is not favorable for a big crop in that famine-stricken land. The Imperial Economic Society has received information from Bessarabia, Kieff, Novgorod, Perm, and some other provinces, that are the reverse of assuring. Continued drouth also is telling frightfully on their grass crops, and the said society counsels the storing up of grain and fodder, to prevent a recurrence of the scarcity of last years. The development of tobacco growing may do some good in the Caucasus, upwards of 40,000 acres being at present under culture, but the finer American sorts have hardly got a foothold yet, and until these are acclimatized, results obtained from coarse Turkish varieties do not count for much.

CROPS IN EUROPE.

Dornbusch (Hungary): "A marked improvement has taken place in agricultural prospects and conditions in this country. Over most of England enough rain has fallen lately to have a pronounced beneficial effect upon both Autumn and lenten cereal crops; pastures and hay meadows also have come on apace, and farmers are much more hopeful than they were a fortnight ago. The *Agricultural Gazette* considers that, compared with 1891, the stand of the wheat crop is quite as good, and in some districts the crop could not be more promising. Barley and oats participate in the improvements and beans and peas, as well bloom. In France, Holland, Belgium, and North Germany persistent drouth, accompanied by extreme heat, has been causing apprehensions respecting the well being of the crops. In the eastern and northern departments of France the wheat plant is reported to be losing color and the growth of rye is checked. In the southern departments heavy rain fell, which lodged some of the wheat now in bloom, but did little to benefit Spring grain. Belgian farmers are crying out for rain. The drouth in Germany was broken up Wednesday afternoon by a violent thunderstorm and a copious downpour. In Austro-Hungary the weather on the whole keeps favorable to wheat, rye, and barley. In Spain the ripening of wheat is proceeding rapidly, and in Tarragona harvest operations are expected to begin next week. In the Castiles crop prospects have improved, but drouth still prevails injuriously in Navarra and part of Arragon. Crop advices from Russia are not uniformly good. Rain fell in the middle and southern governments, and in these regions harvest prospects are steadily improving. In Kharkoff the output of potatoes is expected to be immense. Danubian provinces and Italy have the promise of a fair harvest."

NEW YORK PROVISIONS AND MISCELLANEOUS.

NEW YORK, Tuesday, June 28, 1892.

Butter.—The market for butter was quite firm to-day, and there has been a general advance in prices. The quantity of butter that has thus far gone into cold storage is not as large as that which went into storage last year at this time. We quote:

State dairy, half-firkin tubs, fancy, per pound	19½a20
State dairy, half-firkin tubs, good to choice, per pound	18 a19
State dairy, half-firkin tubs, fair to good, per pound	17 a18
Welsh tubs, fancy, per pound	17 a18
Welsh tubs, good to choice, per pound	15 a16
Eastern creamery, fancy, per pound	21 a21½
Eastern creamery, good to choice, per pound	19 a20
Eastern creamery, fair to good, per pound	17 a19
Elgin creamery, fancy, per pound	.. a21½
Pennsylvania creamery, fancy, per pound	21 a21½
Western creamery, fancy, per pound	21 a21½
Western creamery, good to choice, per pound	19 a20
Western creamery, new, fair to good, per pound	17 a19
Western dairy, new, choice, per pound	16 a17
Western dairy, new, good, per pound	14 a15
Imitation creamery, fancy, per pound	17½a18
Imitation creamery, good to choice, per pound	16 a17
Imitation creamery, fair to good, per pound	15 a16
Factory, fresh, choice, per pound	15 a15½
Factory, fresh, medium to good, per pound	13 a14

Beans and Peas.—The receipts of beans for the last six days were 2,870 barrels, and of peas 400 barrels. Marrows and pea beans are steady. Red and white kidneys are in good demand. Green peas are firmer and are wanted. We quote:

Beans, marrow, choice	$2 10a$2 12½
Beans, marrow, poor to fair	1 50a 2 00
Beans, medium, choice	....a 1 80
Beans, pea, choice	1 80a .. .
Beans, red kidney, choice	2 30a 2 40
Beans, red kidney, poor to fair	1 90a 2 00
Beans, white kidney, choice	2 35a 2 45
Beans, yellow eye, choice	1 65a 1 75
Lima beans, California, per 60 pounds	1 65a 1 75
Green peas, barrels, per bushel	....a 1 60
Green peas, bags, per bushel	....a 1 55
Green peas, Scotch, per bushel	1 50a 1 60

Cheese.—The market for cheese was steady to-day. Fancy-colored cheese is firmly held. The quotations from Liverpool to-day as reported by cable are 45@46s, and a steady market. We quote:

State factory, new, fancy, white, per pound	8½a8½
State factory, new, fancy, colored, per pound	8½a9
State factory, new, full cream, choice, per pound	8½a8½
State factory, new, fair to prime, per pound	7½a8
State factory, part skims, choice, per pound	5 a6
State factory, part skims, fair to good, per pound	3 a4
State factory, full skims, per pound	1½a2½

Dried Fruits and Nuts.—Evaporated apples are somewhat firmer. Other dried fruits are quiet. Fancy peanuts are in good demand. Shelled peanuts are quiet. We quote:

Apples, evaporated, fancy, per pound	6½a..
Apples, evaporated, choice, per pound	5½a6
Apples, evaporated, ordinary to good, per pound	4 a5½
Apples, sun-dried, per pound	3 a 3½
Raspberries, evaporated, per pound	18 a18½
Raspberries, sun-dried, per pound	17 a...
Cherries, per pound	9 a10
Blackberries, per pound	2½a 3
Huckleberries, per pound	a 9
Peaches, Delaware, peeled, fancy, per pound	15 a20
Peaches, North Carolina, peeled, per pound	9 a10
Peaches, California, unpeeled, per pound	7 a10
Apricots, California, in boxes, per pound	10 a12
Apricots, California, in bags, per pound	9 a11
Peanuts, fancy, per pound	4½a 4½
Peanuts, prime, per pound	3 a 3½
Peanuts, farmers' grades, per pound	2½a 3
Peanuts, shelled, per pound	2½a 4½
Peanuts, shelled, Spanish, per pound	4½a 6½

Eggs.—The market for eggs was unsteady. Strictly fancy eggs are scarce. We quote:

State and Pennsylvania, fancy, per dozen	15½a16
Eastern, choice, per dozen	15½a15½
Indiana, Michigan, and Ohio, choice, per dozen	15½a15½
Western, good, per dozen	15½a15½
Western, inferior to medium, per dozen	14 a14½

Fresh Fruits.—Choice new apples are in fair demand. Although the receipts of strawberries are still large the supply is not larger than can be well disposed of. Blackberries and raspberries are arriving in larger quantities. Huckleberries are plentiful and are not active. Most of the peaches on hand are of poor qualities. Choice peaches are very scarce. There is a large supply of poor muskmelons. Prime qualities of muskmelons are in demand. Watermelons are steady. We quote:

Apples, Southern, Astrachan, new, per bushel, crate	$1 50a$2 00
Apples, Southern, green, per crate	75a 1 00
Apples, Southern, green, per barrel, crate	1 00a 1 50
Apples, russet, State, old, per barrel	2 75a 3 25
Apples, russet, up-river, old, per barrel	2 50a 2 75
Strawberries, up-river, fancy, per quart	11a 12
Strawberries, up-river, fair to good, per quart	7a 10
Strawberries, up-river, inferior, per quart	5a 6
Strawberries, western New York, per quart	5a 10
Blackberries, Maryland, Early Harvest, per quart	6a 8
Blackberries, Maryland, Wilson, per quart	14a 16
Blackberries, North Carolina, Wilson, per quart	10a 14
Blackberries, North Carolina, small, per quart	5a 7
Blackberries, Virginia, Wilson, per quart	10a 14
Blackberries, Virginia, small, per quart	5a 7
Raspberries, New Jersey, red, per pint	5a 10
Raspberries, New Jersey, black cap, per pint	3a 5
Raspberries, Delaware, black cap, per pint	3a 4
Huckleberries, New Jersey, per quart	10a 12
Huckleberries, New Jersey, per box	1 00a 1 25
Huckleberries, Shawangunk Mountain, per box	1 50a 1 75
Huckleberries, Maryland, per quart	5a 10
Huckleberries, North Carolina, per quart	5a 10
Peaches, Georgia, St. John, per case	3 00a 3 50
Peaches, Georgia, Early Rivers, choice, per case	1 50a 2 50
Peaches, Georgia, Tillotson, per case	1 50a 3 00
Cherries, large, black, fancy, per pound	11a 12
Cherries, large, red and white, fancy, per pound	10a ..
Cherries, fair to good, per pound	7a 9
Cherries, small, inferior, per pound	4a 6
Cherries, sour, prime, per pound	5a 8
Plums, Georgia, Wildgoose, per case	1 00a 3 00
Plums, North Carolina, Wildgoose, per ½-bushel crate	1 25a 1 50
Pears, Georgia, Le Conte, choice, per barrel	6 00a 6 50
Pears, Georgia, Le Conte, poor to good, per barrel	4 00a 5 50
Currants, large, per quart	8a 9
Currants, large, per pound	7a 8
Gooseberries, green, per quart	5a 6
Pineapples, Florida, 50 to 80 in crate, per 100	10 00a14 00
Pineapples, Florida, 70 to 80 in crate, per 100	6 00a 8 00
Muskmelons, Charleston, per basket	1 00a 3 00
Muskmelons, Charleston, chloce, per barrel	4 00a 6 00
Muskmelons, Charleston, poor to good, per barrel	1 50a 3 00
Muskmelons, Florida, per barrel crate	1 00a 2 00
Watermelons, Southern, large, per 100	20 00a30 00
Watermelons, Southern, medium, per 100	12 00a18 00
Watermelons, Southern, small, per 100	8 00a10 00

Hay and Straw.—Salt hay is wanted, but other kinds of hay are rather dull. Straw is easy. We quote:

Hay, No. 1, per 100 pounds	85a90
Hay, No. 2, per 100 pounds	75a80
Hay, clover, per 100 pounds	60a65
Hay, clover mixed, per 100 pounds	65a70
Hay, shipping, per 100 pounds	..a70
Hay, salt, per 100 pounds	..a55
Long rye straw, per 100 pounds	55a60
Short rye straw, per 100 pounds	40a45
Oat straw, per 100 pounds	45a50
Wheat straw, per 100 pounds	40a45

Poultry and Game.—Live geese and ducks are rather quiet. The demand for live chickens and fowls was fair. Live roosters are steady. Broiling chickens are not active, and freshkilled fowls are rather dull. There is a fair demand for Eastern Spring ducks, but Western are dull. Tame squabs are steady. Wild pigeons are quiet. We quote:

LIVE POULTRY.

Geese, Western, per pair	$1 12 a$1 25
Turkeys, per pound	10 a 12
Ducks, Eastern, per pair	70 a 90
Ducks, Western, per pair	60 a 80
Chickens, Spring, large, per pound	21 a 23
Chickens, Spring, medium, per pound	18 a 20
Chickens Spring, small, per pound	15 a 17
Fowls, State, New Jersey and Pennsylvania, per pound	12 a ..
Fowls, Western, per pound	.. a 12
Fowls, Southern, per pound	11½a 12
Roosters, mixed, per pound	7 a 7½

DRESSED POULTRY.

Chickens, Philadelphia, broilers, three to three and a half pounds per pair per pound	22a30
Chickens, Philadelphia, fair, per pound	23a25
Chickens, Western, broilers, dry-picked, choice, per pound	..a21
Chickens, Western, broilers, dry-picked, mixed weights, per pound	16a20
Chickens, Western, broilers, scalded, large, per pound	21a22
Chickens, Western, broilers, scalded, mixed weights, per pound	19a20
Chickens, Western, broilers, scalded, small, per pound	17a18
Fowls, Western, dry-picked, per pound	11a11½
Fowls, Western, scalded, per pound	..a11
Fowls, Western, poor to fair, per pound	8a10
Old roosters, dry-picked, per pound	6a 6½
Old roosters, scalded, per pound	..a 6
Turkeys, toms, prime, per pound	13a14
Turkeys, hens, selected, per pound	15a..
Turkeys, mixed weights, per pound	14a15
Ducks, Spring, Eastern, per pound	21a22
Ducks, Spring, Long Island, per pound	20a22
Ducks, Spring, Western, per pound	10a13

Vegetables.—The receipts of potatoes for the past six days were 59,540 barrels, and of onions 1,582 pecks. The market for potatoes was active to-day, and most of the receipts of new potatoes were sold out. Old potatoes, however, are dull. Onions are steady. There is a large supply of tomatoes, and prices have declined. Cauliflower is irregular in quality and price. Crook-neck squash is steady, but marrow is dull. String beans and green peas are firmer. Asparagus is quiet. We quote:

Potatoes, North Carolina, Rose, per barrel	$1 25 a1 75
Potatoes, North Carolina, Chile red, per barrel	1 00 a1 25
Potatoes, Norfolk, Rose, prime, per barrel	1 25 a1 75
Potatoes, Norfolk, Chile red, per barrel	1 00 a1 25
Potatoes, Southern Rose, per barrel	40 a 80
Potatoes, Southern, new, seconds, per barrel	40 a 75
Potatoes, Southern, culls, per barrel	25 a 40
Potatoes, Eastern Shore, Rose, prime, per barrel	1 00 a1 50
Potatoes, Eastern Shore, Chile red, prime, per barrel	1 00 a1 12
Onions, Virginia and Maryland, per barrel	2 00 a2 50
Onions, Virginia and Maryland, per basket	1 00 a1 25
Cabbage, Norfolk, per barrel	50 a 75
Cabbage, Long Island and New Jersey, per 100	2 00 a2 50
Asparagus, New Jersey, per dozen bunches	75 a1 25
Tomatoes, Florida, choice, per bushel crate	50 a1 00
Tomatoes, Florida, per carrier	50 a1 25
Tomatoes, Savannah, per bushel crate	75 a1 25
Tomatoes, Savannah, per carrier	1 00 a1 50
Tomatoes, Charleston, per bushel crate	75 a1 50
Tomatoes, North Carolina, per bushel crate	1 00 a1 25
Squash, marrow, per barrel crate	75 a1 00
Squash, crook-neck, per barrel crate	1 00 a1 50
String beans, Norfolk, wax, per half barrel	50 a1 00
String beans, Norfolk, round, per half barrel	50 a 75
String beans, Norfolk, flat, per half barrel	30 a 60
String beans, Maryland, wax, per basket	75 a1 00
Cucumbers, Savannah, per barrel	75 a1 25
Cucumbers, Norfolk, per crate	50 a 75
Cucumbers, North Carolina, per crate	50 a 75
Cucumbers, Charleston, per basket	40 a 60
Cucumbers, Charleston, per crate	40 a 50
Green peas, Long Island, per bag	1 00 a1 25
Eggplant, per barrel crate	5 00 a6 00
Cauliflower, New Jersey, and Long Island, per barrel	2 00 a3 00

Sundries.—We quote:

Beeswax, Western, pure, per pound	26 a 27
Beeswax, Southern, pure, per pound	27 a 28
Beeswax, West Indies, per pound	26 a ..
Maple Sugar, new, per pound	7 a 8
Maple sugar, old, in bricks, per pound	.. a 7
Maple sugar, old, in tubs, per pound	5½a 6
Maple sirup, per gallon can	50 a 65

WOOL.

BOSTON, June 28.—The market is quiet and unchanged. Manufacturers are apparently waiting till they receive enough orders on light weights to indicate exactly what styles will be needed before purchasing very freely. At all events the attendance this week has only been fair and the sales have not risen above a moderate average, for over half a million pounds of the sales represent a cargo of South American carpet wool. The country is somewhat high for Boston's views, and purchases for Boston's account are likely to fall somewhat below last year's if the boom continues. The market here, however, is fully sustained, and while no advance is to be noted, at the present range of values wool sells readily and easily. The demand, too, is well distributed among the various houses and comes not from the purchases of two or three individuals, but from a general inquiry from many. The wool most wanted seems to be the finest to be procured between 55c and 60c. With the exception of quarter-bloods there is not much inquiry for anything lower, and with the exception of Australians not much inquiry for anything above this figure. Purchasing on price is the bane of the American wool trade. There are only too many buyers who really buy expensive wool at a low price and neglect wool that will do twice the work because its scoured cost is roughly a little more. Ohio and Pennsylvania fleeces are steady. There is every indication that last year's experience will be repeated and that we shall have a number of sales of round lots instead of graded wool. One such sale on private terms is reported this week. There has been considerable new unwashed coming forward, and it has met with very good inquiry at 20c. or, say, 60c clean. Some medium unwashed Ohio has found purchasers at 24c and at 25c. Staple wools are generally quiet except quarter-blood combings, for which at 28a27c for the best, there is very excellent demand. The scoured basis is 42a43c. Delaines have met with a pretty free inquiry at 32c for good Ohio and 31c for inferior. The scoured basis of delaines to-day is 64a66c, and at least one holder of choice Ohio declines to shade 33c in the grease. Pulled wool is in pretty steady request. There has been a pretty fair inquiry for new lambs. The better pullings of such stock, where the A's and B's are pulled together, have sold this week on a basis of 45c. There has been little inquiry for shearlings, but some are offered at from 18a20c. There have been some sales of good B supers brushed at 41c. Old A supers are selling this week on a basis of 48a52c and fine A's at 58a62c. One choice lot of brushed fine A sold this week on a basis of 63c clean. The receipts of the week have been 19,600 bales domestic, and 1,237 bales foreign, against 14,297 bales domestic, and 1,350 bales foreign last week and 11,300 bales domestic and 1,800 bales foreign for the corresponding week last year.

GRAIN.

NEW YORK, June 28.

The visible supply of grain on Saturday, June 25, as compiled by the New York Produce Exchange, was as follows: Wheat, 24,565,000 bushels, decrease 1,441,000 bushels; corn, 4,213,000 bushels, increase 967,000 bushels; oats, 4,132,000 bushels, increase 100,000 bushels; rye, 327,000 bushels, decrease 50,000 bushels; barley, 329,000 bushels, decrease 50,000 bushels.

BALTIMORE MARKETS.

BALTIMORE, June 30.—Flour dull and lower; Western super, $2.10a2.65; do., extra, $2.75a3.75; do., family, $4a4.50; Winter wheat patent, $4.00a4.85; Spring, do., do., $4.50a4.65; do., do., straight, $4.25a4.40; receipts, 14,635; shipments, 140; sales, 1,060. Wheat weak; No. 2, red, spot and the month, 86½a86½c; July, 84½a84½c; August, 84a84½c; October, 87c asked; steamer, No. 2, red, 78c bid; receipts, 37,325; shipments, 12,000; stock, 746,831; sales, 88,000. Southern wheat firm; Fultz, 80a90c; longberry, 85a91c. Corn weak; spot, 56½a56½c; the month, 56½a56½c; July, 54½a55½; August, 54½c asked; steamer, mixed, 50a50½; receipts, 4,162; stock, 181,056; sales, 24,000. Southern corn—White, strong, 63; yellow, nominal, 60. Oats firmer; No. 2, white, Western, 41½a42½c; No. 2, mixed, Western, 39½; receipts, 6,000; stock, 70,801. Rye dull; No. 2, 84½c-93d; receipts, 200; stock, 7,871. Hay firm; good to choice timothy, $14.50a15.50. Grain freights very dull, unchanged. Provisions steady and active; mess pork, $12.50; bulkmeats, loose shoulders, 6½c; long, clear, 8c; clear ribsides, 7½c; sugar pickled shoulders, 7½c; sugar cured smoked shoulders, 8½c; hams, small, 15½c; large, 12½c; lard, refined, 8½c; crude, 6½c. Butter active and excited; creamery, fancy, 21c; do., fair to choice, 19a20c; do., imitation, 17a19c; ladle, fancy, 16c; do., good to choice, 14a15c; store packed, 11a14c; grass, 12a15c. Eggs steady, 16c.

CATTLE.

NEW YORK, June 30.

Beeves—Receipts 922 head, all for export and slaughters; no trade; feeling steady. Dressed beef firmer at 6½a7½c per pound. Shipments today 832 beeves, 85 sheep, and to-morrow 186 beeves and 1,380 quarters of beef.

Calves—Receipts, 435 head; market weak, but lower; veals, 5a6c per pound.

Buttermilk, 3a3½c.

Sheep and Lambs—Receipts 7,047 head; market steady for sheep and lambs; sheep $3.25a5.20 per 100 pounds; lambs, 5½a8c per pound.

Hogs—Receipts 4,148 head; no trading; feeling steady at $5.50a5.70 per 100 pounds.

Exchanging Passwords.

The Alliance in a certain small town in Weakly County is in the habit of meeting in the same hall as the Knights of Pythias. One night not long ago a member of the Alliance saw a light in the hall, and, supposing his Order was in session, sauntered up and knocked on the door. The door was opened and an inquiring face appeared.

"I plow, I hoe, I spade," solemnly remarked the Alliance man.

"The devil you do!" replied the man on the inside, closing the door.

The Alliance man told the story to his fellows; they were alarmed.

"Why, you have given away our password!" they exclaimed.

"Yes," complacently responded the hero of the story, "but I found out theirs."

He Was.

"They say Charlie Hardup is a very fast young man."

"Yes, papa says he is constantly running in debt."

An Irresistible Impulse.

Briggs—I see that Robinson disgraced himself at his new boarding-house the other day.

Griggs—What did he do?

Briggs—They had rabbit stew for dinner and he threw a bootjack at it.

Gaged the Barber's Ability.

"Shampoo!"

"Nope."

"Hair cut? Bay rum? Sea-foam!"

"Nope."

"Nothing else at all?"

"Well," said the victim, rubbing his scarified chin, "you might wrap me up a porter-house steak and three pounds of sausage."—*Indianapolis Journal.*

Exceptions.

"I wonder how old maids manage to pass the time?"

"Pass it, my dear boy, they don't! They are five or 10 years behind it, according to their accounts."

Jinks Takes a Turn.

Stranger—Beg y'r pardon.

Jinks—Why do you beg my pardon?

Stranger—Foh not hearing you, y' know.

Jinks—Oh! Beg y'r pardon.

Stranger—Eh! Why?

Jinks—For not speaking more distinctly. I beg your pardon again.

Stranger—Eh! Wha—what for?

Jinks—For not understanding what you meant when you begged my pardon before. Now if you'll kindly beg my pardon for not understanding me when I begged your pardon we'll be square.—*N. Y. Herald.*

Pokerish.

Mrs. Pat Strait—My hands are full enough without your staying out and raising the deuce.

Strait—That's just like woman; expect man to come in (hic) and get raised on deuce.

Unlucky.

She—I'm not afraid to die, but what comes after makes me nervous.

He—What?

She—Just my luck to be sent to a mansion on Opal Avenue.

An Unreliable Memory.

Rosamond—Oh, dear! What a wretched memory I have! There's my dentist's appointment this afternoon, and I've just remembered it!"

Gertrude—Well, I don't see but what you've thought of it in time.

Rosamond—That's just it. I didn't want to remember it till to-morrow.—*Harvard Lampoon.*

A Mule of Quality.

Old Uncle Joe was sunning himself in front of his cabin as I rode up on a mule I had borrowed over in the neighboring town.

"Want to buy a mule, Uncle Joe?" I called to him.

The old man without replying rose slowly, and limping out to where I was, walked around the animal, making a critical survey.

"What's he wuf, Colonel?" he inquired.

"About $100, I should say."

"That's a lot of money for a mewel, Colonel," said the old man, doubtfully, "but mewels das got de proper qualities is wuf money, I reckon."

"Well, this one is warranted sound in wind, limb, and bottom."

Uncle Joe made another survey.

"Air he one ob dem yar kickin' mewels?" he asked innocently.

"Certainly not," I replied, without knowing anything about it. "He's perfectly safe."

The old fellow started back toward the cabin at once.

"Doan' want 'im at no price, Colonel," he said, shaking his head. "Cain't tell dis nigga a mewel is sound in his min' an' body ef he doan' kick. I'se been fotch up wid 'em, Colonel, an' w'en a mewel doan' kick sumpin' is rajacally wrong wid 'em sho's you bawn. 'Deed dey is, Colonel."—*Detroit Free Press.*

Candidates and Papers.

Small Boy—Do newspapers always tell the truth?

Mr. Greatmann (unsuccessful candidate)—No, they don't. They never publish anything but lies!

Small Boy—That's wot I thort. This paper says you is a great statesman.—*Street & Smith's Good News.*

Who?

Newly Engaged—Jack told me last night that he thought I was cut out for him.

Rival—Did he tell you who has cut you out?

An Epitaph.

Little Charlie disobeyed,
Fooled with poisoned ivy,
Now his tombstone says that he
Died aged nearly IV.

Perfecting His Italian.

Mrs. McClaugh—Is your son goin' to school now, Mrs. McGooghan?

Mrs. McGooghan—No, sure he's t'rew wid the English branches. He's perfectin' his Italian now.

"Where?"

"Helpin' dig a sewer down on the road beyant."—*New York Weekly.*

An Unpardonable Error.

Editor (wildly)—I am ruined—teetotally ruined!

Foreman—What's the matter now?

Editor—What's the matter? Why, in my notice of Col. Jones's marriage I plainly wrote: "The ready and waiting bride advanced to the altar, hung with lilies and rose leaves," and, confound you! here's the way it reads in the paper: "The wretched and weary bride danced to the halter, hung with liars and horse-thieves." Go off in the woods and hang yourself. I don't want to waste buckshot on you.—*Atlanta Constitution.*

The Chicago Maiden.

The popular idea of her obtained from newspaper paragraphs.

In a Doubtful State.

Lawyer—Are you single?

Female Witness—No.

"Then you are a married woman?"

"No."

"So you are a widow?"

"No."

"But, my dear madam, or miss, you must belong to one of these classes. A what shall I put you down?"

"I am—an—engaged woman."—*Texas Siftings.*

Rather Heartless.

Little Dick—School-teachers hasn't any feelin's at all.

Mamma—What is the matter now?

Little Dick—My teacher borrowed my new knife to sharpen her pencil, so she could give me a demerit mark.—*Street & Smith's Good News.*

If fish are good brain food because they go in schools, wasps ought to be good to sharpen wits.—*Binghamton Republican.*

Sold Again.

Foreman—Old Jones joined the church last night.

Editor—Good! Make out a bill for seven years' subscription with interest at eight per cent. I guess he'll pay up now.

Foreman—You're off there. When I left he was singing at the top of his voice: "Religion's paid it all—all the debt I owe!"

After all the discussion on the tariff it must be conceded that milk is the most essential thing for our infant industries.—*Detroit Free Press.*

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No such outfit was ever before offered in this country for the money.

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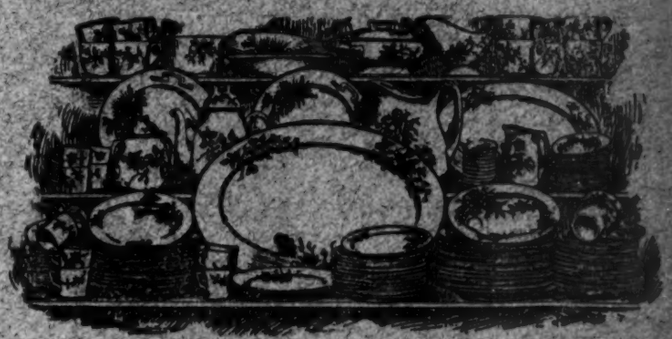

We have secured for the benefit of our subscribers a splendid set of Decorated China with gold band around the edge of the pieces. It is made especially for us at the largest and best pottery in the United States. We buy in very large quantities, and thus we are able to supply this elegant ware as described below. We are able now to make a grand combination of four different sets to choose from.

Our China is highly ornamental, being decorated in three colors, with a design of fruits and flowers, in addition to which there is a gold band about the edge, as shown in the cut, which is made from a photograph of a set of the China we offer.

In order to save space, all the pieces are shown in one picture. The reader can readily tell which are referred to. The same plates, teapot, sugar-bowl, etc., go with all the sets, but in the larger offers more and more pieces are added to the tea set. All are of the same beautiful style of decoration.

First is

A 56-PIECE TEA SET.

It consists of 12 plates, tea size; 12 fruit saucers, teapot and cover, sugar-bowl and cover, a creamer, one bowl, one dozen tea cups and saucers to match, one bread plate, and one cake plate.

DINNER AND TEA SET COMBINED, 84 PIECES.

This beautiful set comprises 12 breakfast plates, 12 tea plates, 12 cups, 12 saucers, 12 fruit saucers, 12 individual butter plates, two cake plates, one teapot and cover, one sugar-bowl and cover, one creamer, one slop bowl, one large meat platter, one large and stylish gravy-boat, and one large vegetable dish and cover, in all **84 Pieces**, making a complete dinner or tea set for any table.

EXTRA DINNER AND TEA SET COMBINED, 100 PIECES.

This set is the same as the 84-piece set, with the addition of the following beautiful and useful articles, viz: 12 pie plates, one pickle-dish, one water-pitcher, and two bakers, or uncovered vegetable dishes, in all 100 pieces.

GRAND EXTRA DINNER AND TEA SET COMBINED, 125 PIECES.

This the same as the 100-piece set described above, with the addition of the great turkey platter and one dozen after-dinner coffee cups and saucers to match.

This makes the grandest China premium ever offered entire by us or any other publisher, and at a price below that possible to anyone else.

HOW TO SECURE IT.

First, the Tea Set. We will send this beautiful 56-piece tea set, by express or freight, for $6.25, or for a club of 10 yearly subscribers and $2 additional; or we will give it free for a club of 20 yearly subscribers at $1 each.

The 84-piece dinner and tea set combined will be sent to any address in the United States as a Premium for a Club of only 10 subscribers for one year and $3 additional, or for a Club of only 20 subscribers for one year and $1.50 in money additional; or we will sell it outright for $8.10. We prefer the Club.

The 100-piece extra dinner and tea set combined will be sent to any address in the United States as a Premium for a Club of 10 yearly subscribers at $1 each and $5.75 added; or for a Club of 20 yearly subscribers and $3 added; or *free* as a Premium for a Club of 33 yearly subscribers. For sale at $10.35.

The grand extra combined dinner and tea set of 125 pieces we will send to any address in the United States as a Premium for a Club of 10 yearly subscribers and $8.75 added; for a Club of 20 subscribers and $4.40 added. Sent as a *free* gift to a Club-raiser who sends in a Club of 45 yearly subscribers. For sale at $13.50.

The China will be carefully boxed and shipped by express or freight, the receiver to pay charges of transportation. Fast freight takes a little more time than express, but it is preferable, unless the goods are needed in special haste; because the charges are very much lower by freight, and, in fact, except to very distant points, amounts to but a trifle.

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